OIPE IAP59
MAR 2 7 2006
PATENT & TRADEMARK OFFICE

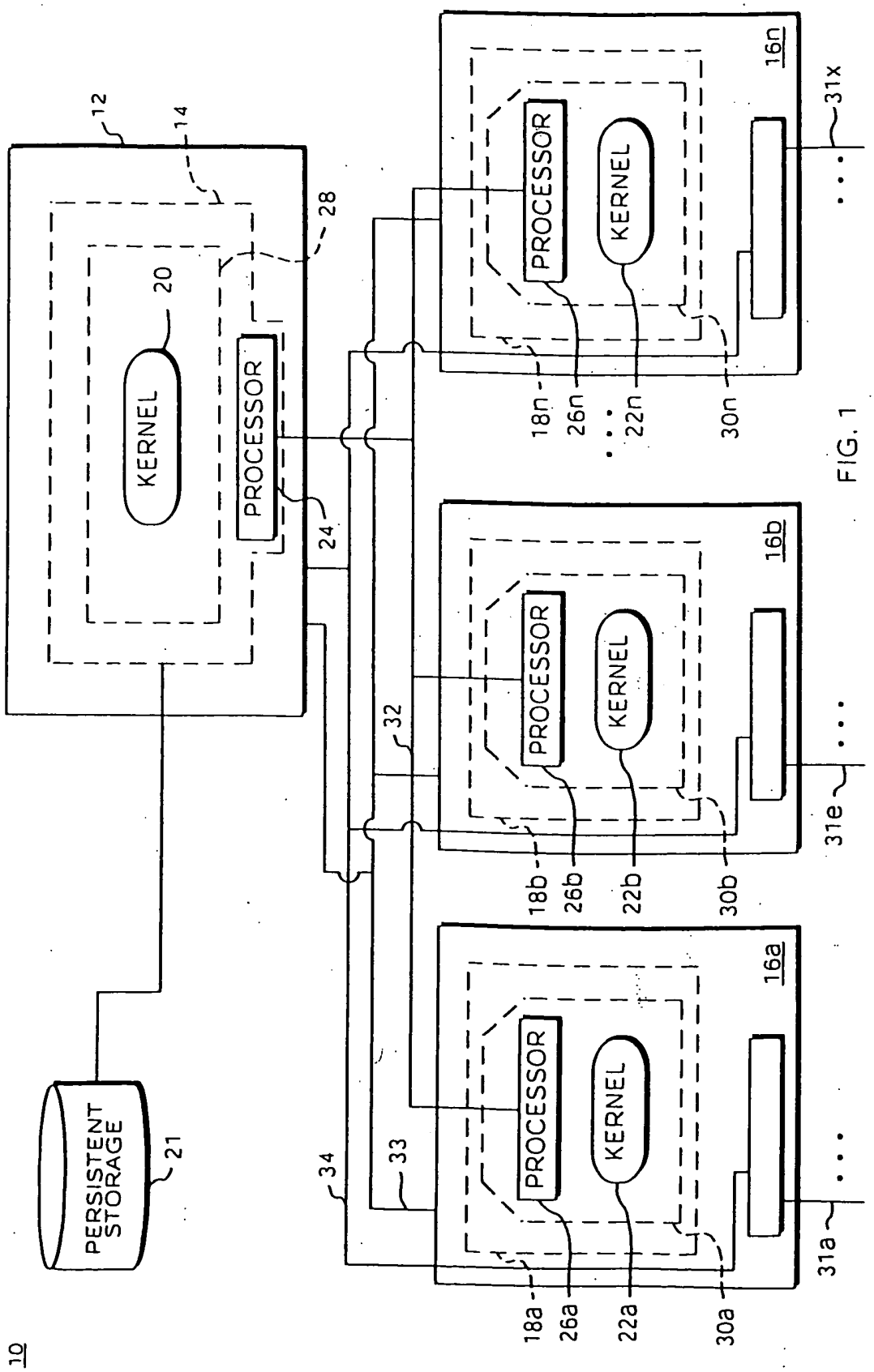


FIG. 1

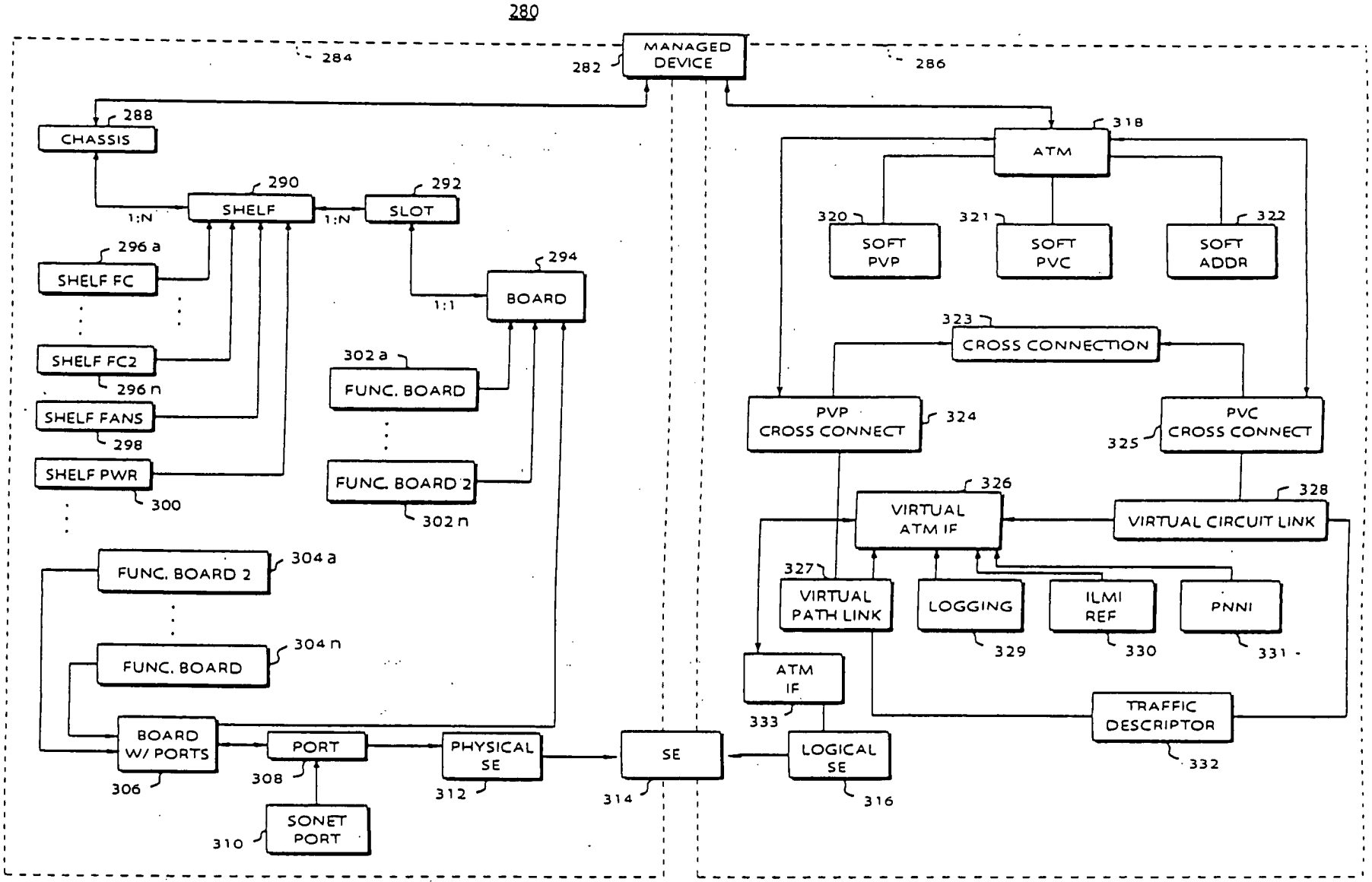

280
284
MANAGED DEVICE
282
286
CHASSIS
288
1:N
SHELF
290
1:N
SLOT
292
SHELF FC
296 a
SHELF FC2
296 n
SHELF FANS
298
SHELF PWR
300
1:1
BOARD
294
FUNC. BOARD
302 a
FUNC. BOARD 2
302 n
FUNC. BOARD 2
304 a
FUNC. BOARD
304 n
BOARD W/ PORTS
306
PORT
308
SONET PORT
310
PHYSICAL SE
312
SE
314
LOGICAL SE
316
ATM
318
SOFT PVP
320
SOFT PVC
321
SOFT ADDR
322
CROSS CONNECTION
323
PVP CROSS CONNECT
324
PVC CROSS CONNECT
325
VIRTUAL ATM IF
326
VIRTUAL CIRCUIT LINK
328
VIRTUAL PATH LINK
327
LOGGING
329
ILMI REF
330
PNNI
331
ATM IF
333
TRAFFIC DESCRIPTOR
332

FIG. 2

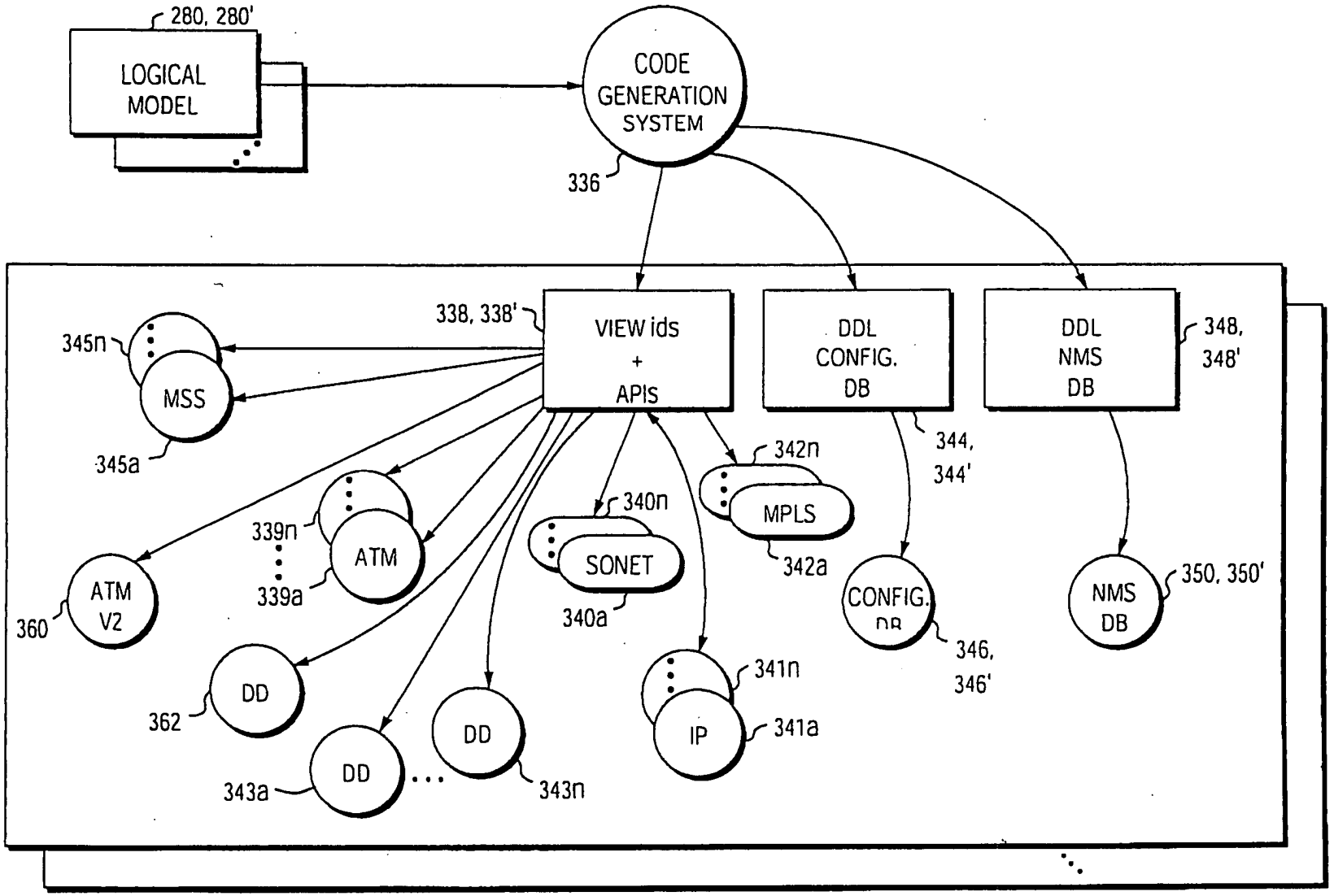

280, 280'
LOGICAL MODEL
CODE GENERATION SYSTEM
336
338, 338'
VIEW ids + APIs
DDL CONFIG. DB
DDL NMS DB
348, 348'
345n
MSS
345a
339n
ATM
339a
ATM V2
360
340n
SONET
340a
342n
MPLS
342a
344, 344'
CONFIG. DB
346, 346'
NMS DB
350, 350'
341n
IP
341a
DD
362
DD
343a
DD
343n

FIG. 3

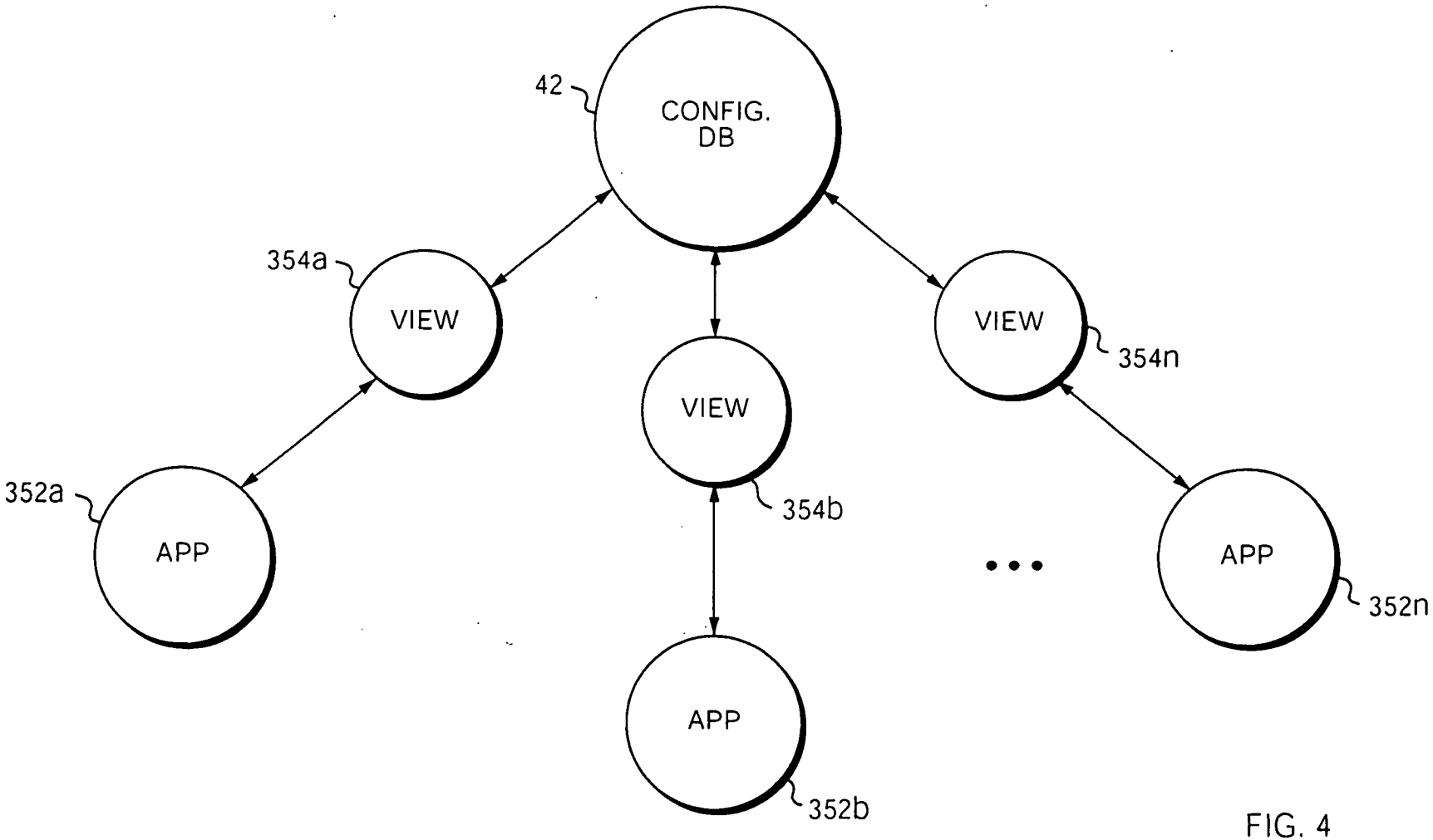

42
CONFIG. DB
354a
VIEW
VIEW
354b
VIEW
354n
352a
APP
APP
352b
APP
352n

FIG. 4

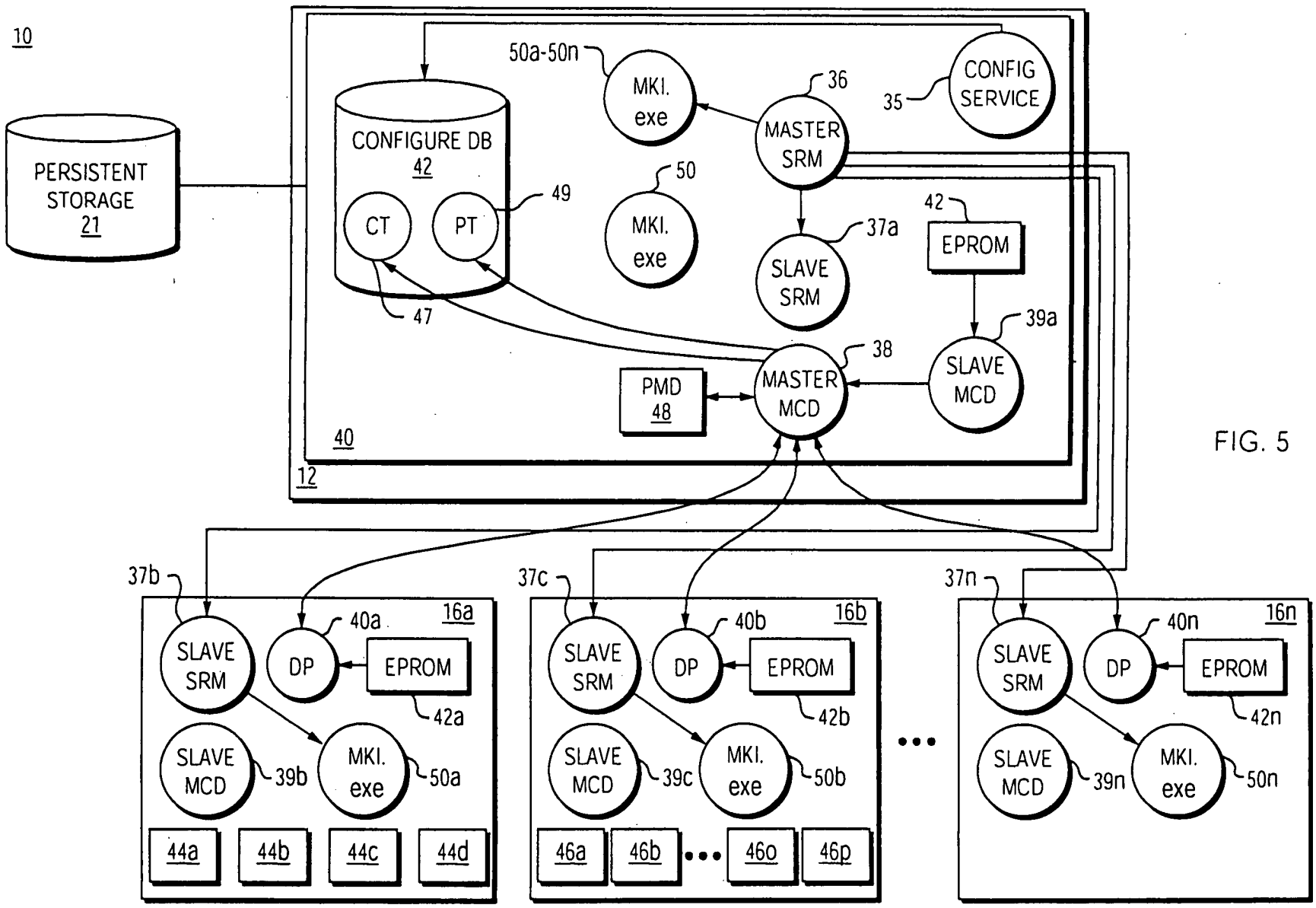

10
PERSISTENT STORAGE 21
CONFIGURE DB 42
CT
PT
49
47
50a-50n
MKI. exe
50
MKI. exe
36
MASTER SRM
35
CONFIG SERVICE
37a
SLAVE SRM
42
EPROM
39a
SLAVE MCD
38
MASTER MCD
PMD 48
40
12
37b
SLAVE SRM
40a
DP
EPROM
42a
16a
SLAVE MCD
39b
MKI. exe
50a
44a
44b
44c
44d
37c
SLAVE SRM
40b
DP
EPROM
42b
16b
SLAVE MCD
39c
MKI. exe
50b
46a
46b
46o
46p
37n
SLAVE SRM
40n
DP
EPROM
42n
16n
SLAVE MCD
39n
MKI. exe
50n

FIG. 5

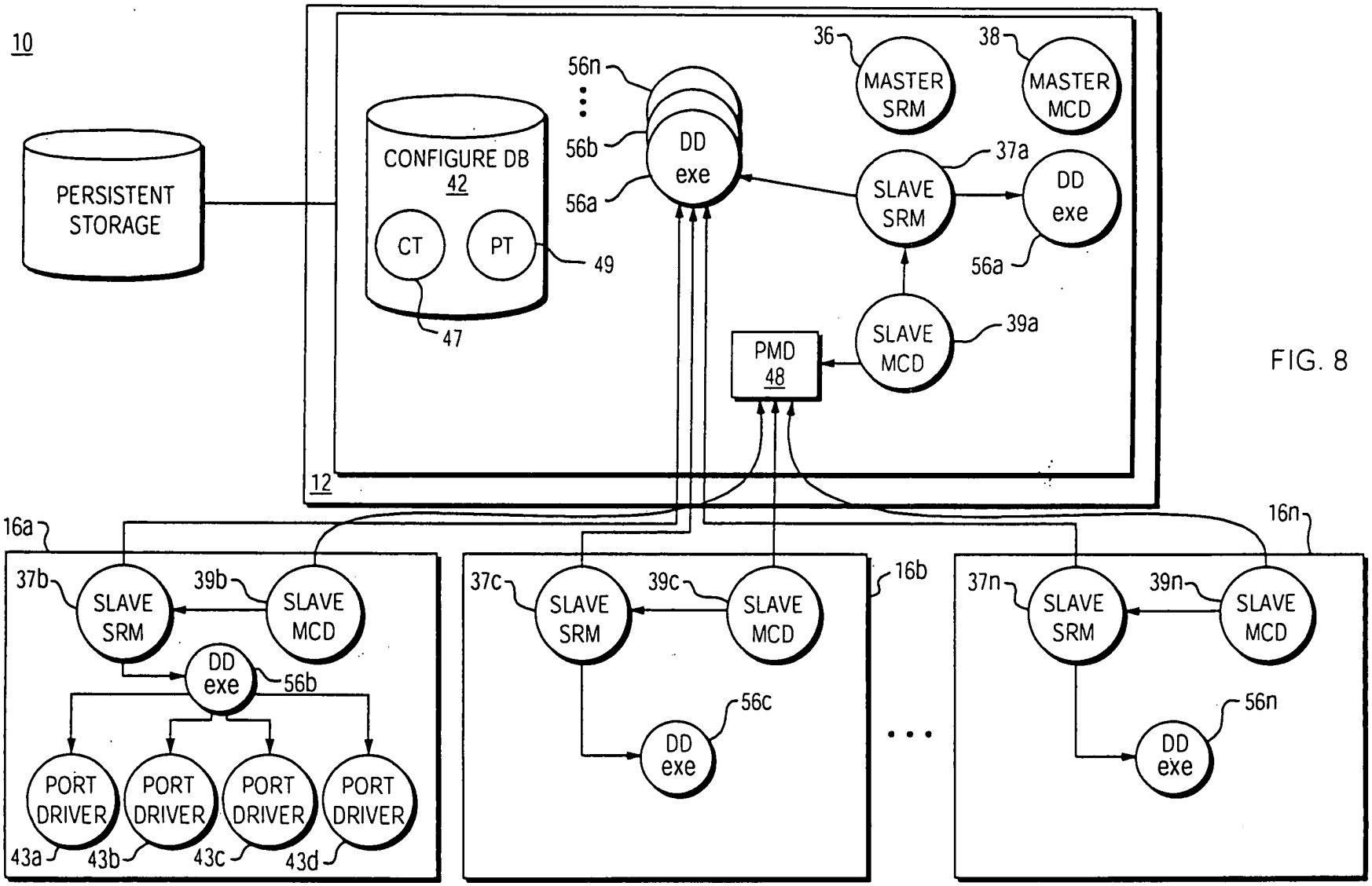

10
PERSISTENT STORAGE
CONFIGURE DB
42
CT
PT
49
47
56n
56b
56a
DD exe
36
MASTER SRM
38
MASTER MCD
37a
SLAVE SRM
DD exe
56a
SLAVE MCD
39a
PMD
48
12
16a
37b
SLAVE SRM
39b
SLAVE MCD
DD exe
56b
PORT DRIVER
PORT DRIVER
PORT DRIVER
PORT DRIVER
43a
43b
43c
43d
16b
37c
SLAVE SRM
39c
SLAVE MCD
56c
DD exe
16n
37n
SLAVE SRM
39n
SLAVE MCD
56n
DD exe

FIG. 8

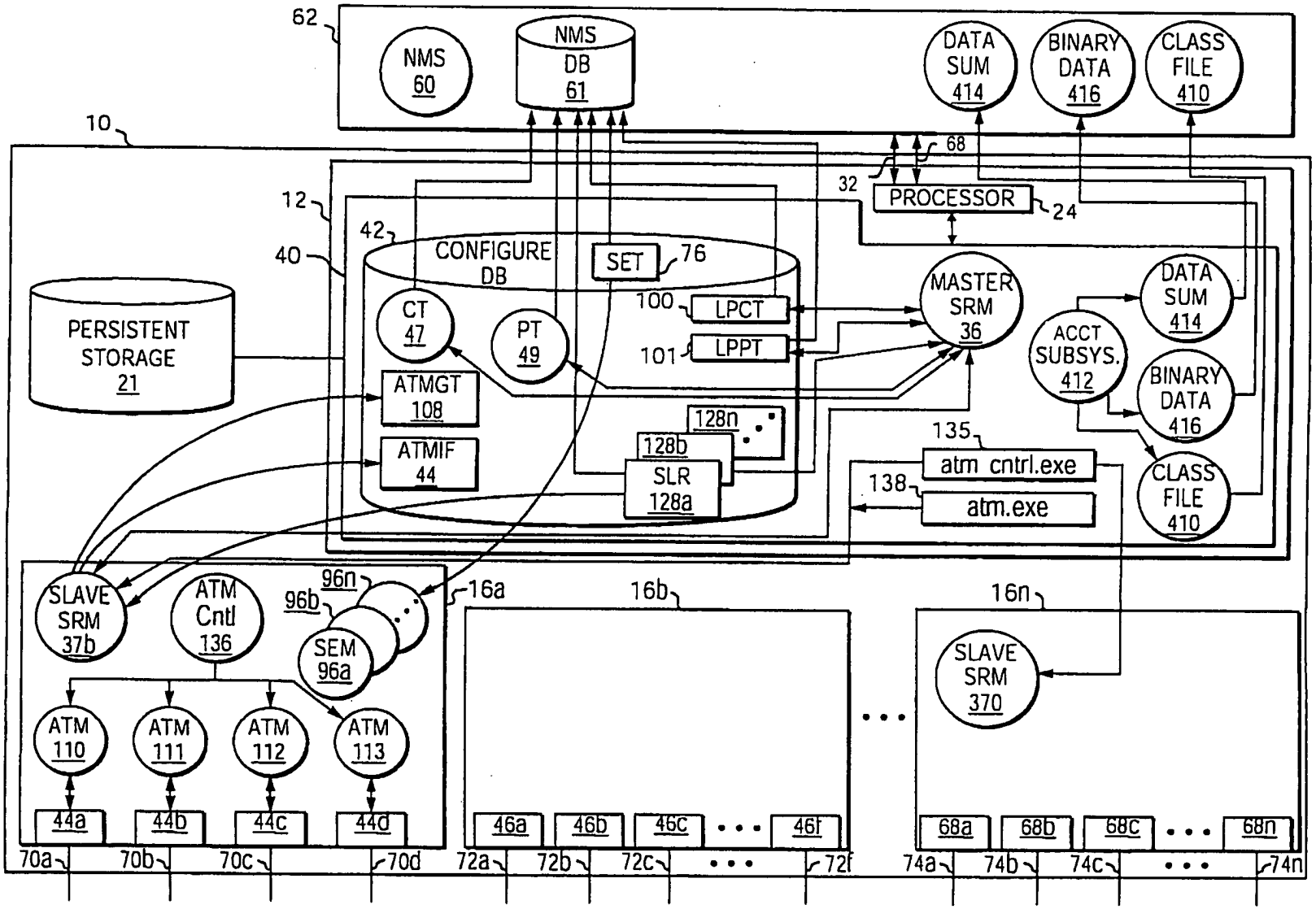

62
NMS 60
NMS DB 61
DATA SUM 414
BINARY DATA 416
CLASS FILE 410
10
68
32
PROCESSOR 24
12
42
40
CONFIGURE DB
SET 76
PERSISTENT STORAGE 21
CT 47
PT 49
100 LPCT
101 LPPT
MASTER SRM 36
DATA SUM 414
ACCT SUBSYS. 412
BINARY DATA 416
ATMGT 108
ATMIF 44
128n
128b
SLR 128a
135
atm cntrl.exe
138
atm.exe
CLASS FILE 410
SLAVE SRM 37b
ATM Cntl 136
96n
96b
SEM 96a
16a
16b
16n
SLAVE SRM 370
ATM 110
ATM 111
ATM 112
ATM 113
44a
44b
44c
44d
46a
46b
46c
46f
68a
68b
68c
68n
70a
70b
70c
70d
72a
72b
72c
72f
74a
74b
74c
74n

FIG. 9

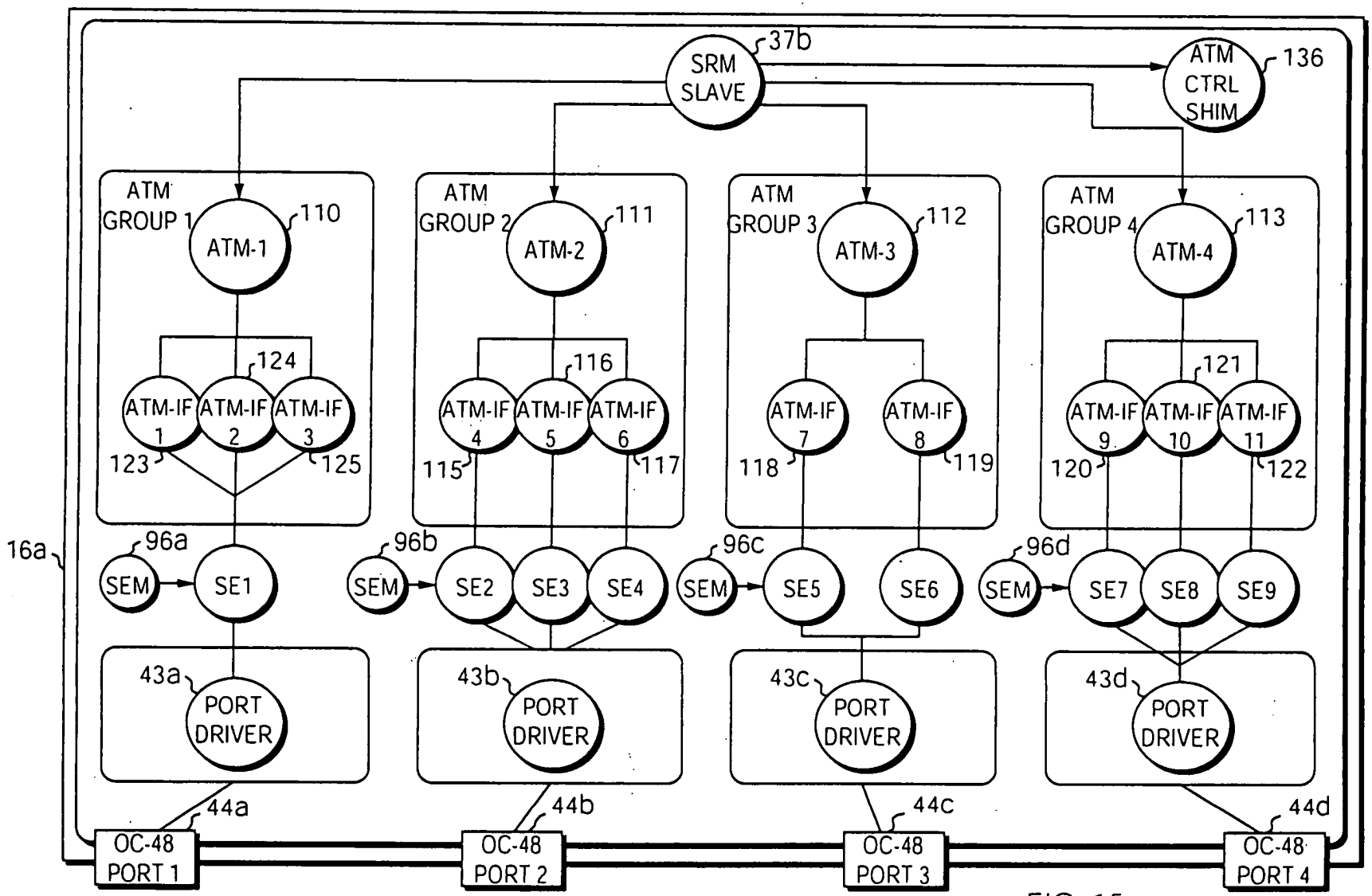

SRM SLAVE
37b
ATM CTRL SHIM
136
ATM GROUP 1
ATM-1
110
ATM GROUP 2
ATM-2
111
ATM GROUP 3
ATM-3
112
ATM GROUP 4
ATM-4
113
124
116
121
ATM-IF 1
ATM-IF 2
ATM-IF 3
ATM-IF 4
ATM-IF 5
ATM-IF 6
ATM-IF 7
ATM-IF 8
ATM-IF 9
ATM-IF 10
ATM-IF 11
123
125
115
117
118
119
120
122
16a
96a
96b
96c
96d
SEM
SE1
SE2
SE3
SE4
SE5
SE6
SE7
SE8
SE9
43a
43b
43c
43d
PORT DRIVER
44a
44b
44c
44d
OC-48 PORT 1
OC-48 PORT 2
OC-48 PORT 3
OC-48 PORT 4

FIG. 15

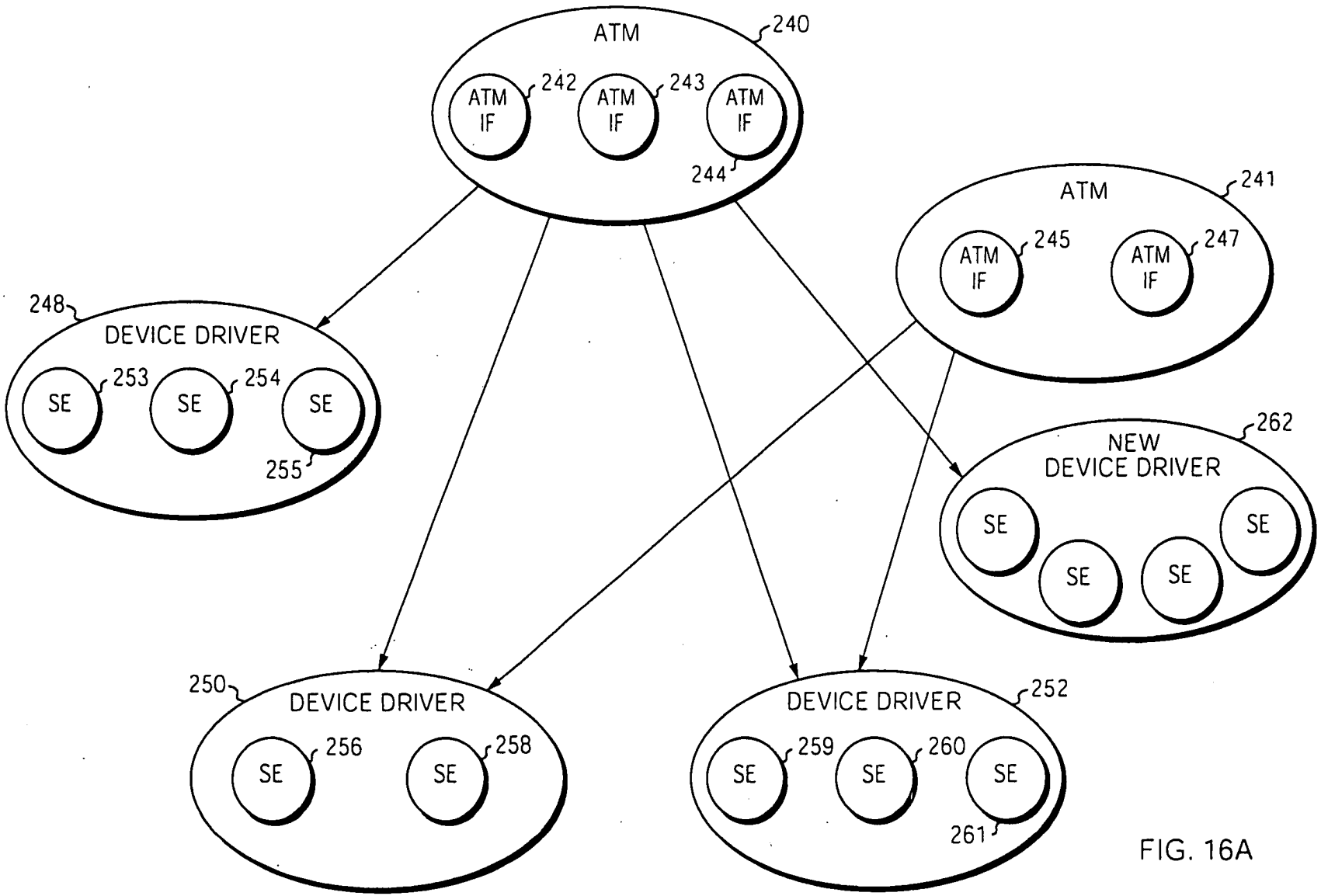

ATM
240
ATM IF
242
ATM IF
243
ATM IF
244
ATM
241
ATM IF
245
ATM IF
247
248
DEVICE DRIVER
SE
253
SE
254
SE
255
NEW DEVICE DRIVER
262
SE
SE
SE
SE
250
DEVICE DRIVER
SE
256
SE
258
DEVICE DRIVER
252
SE
259
SE
260
SE
261

FIG. 16A

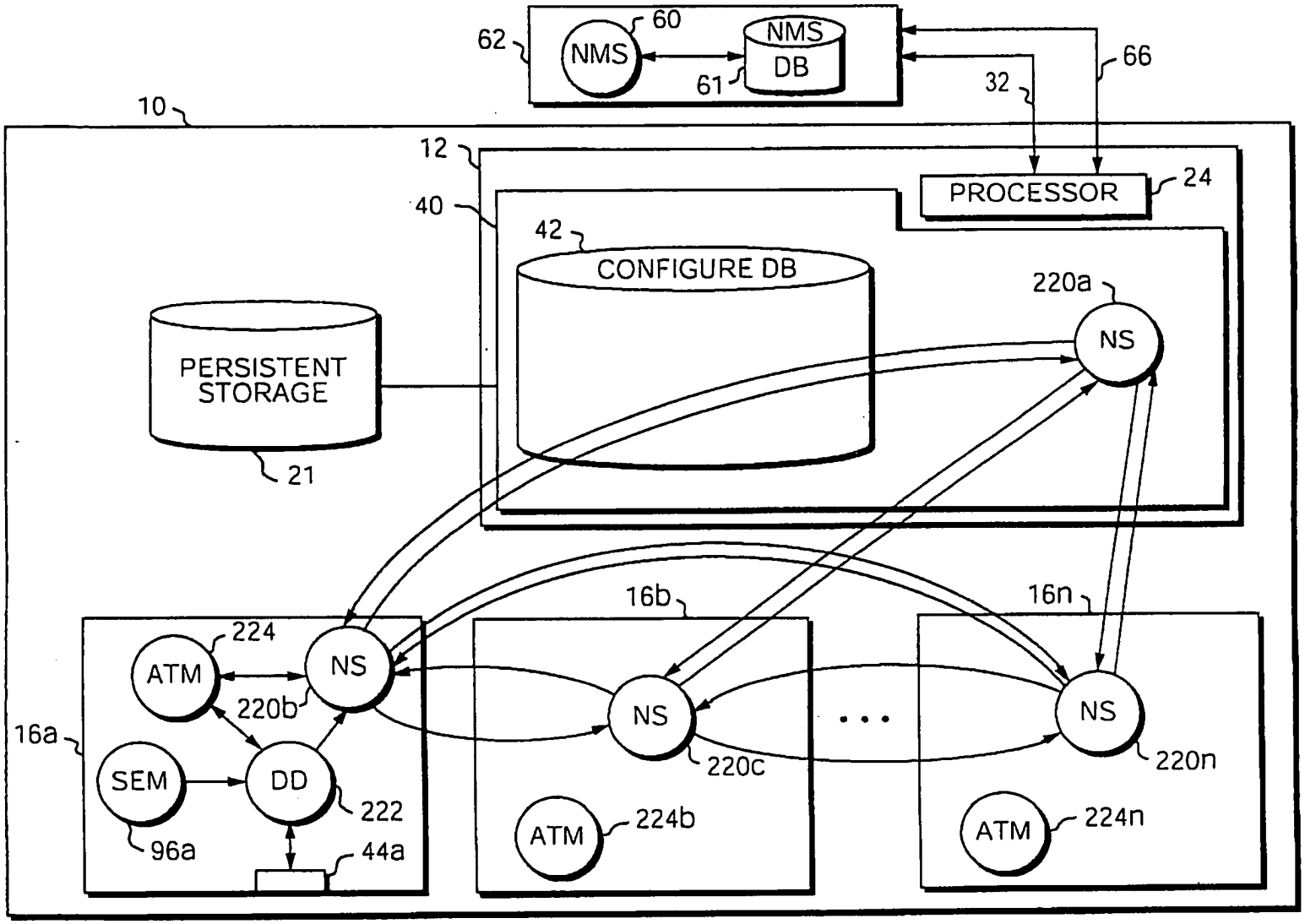
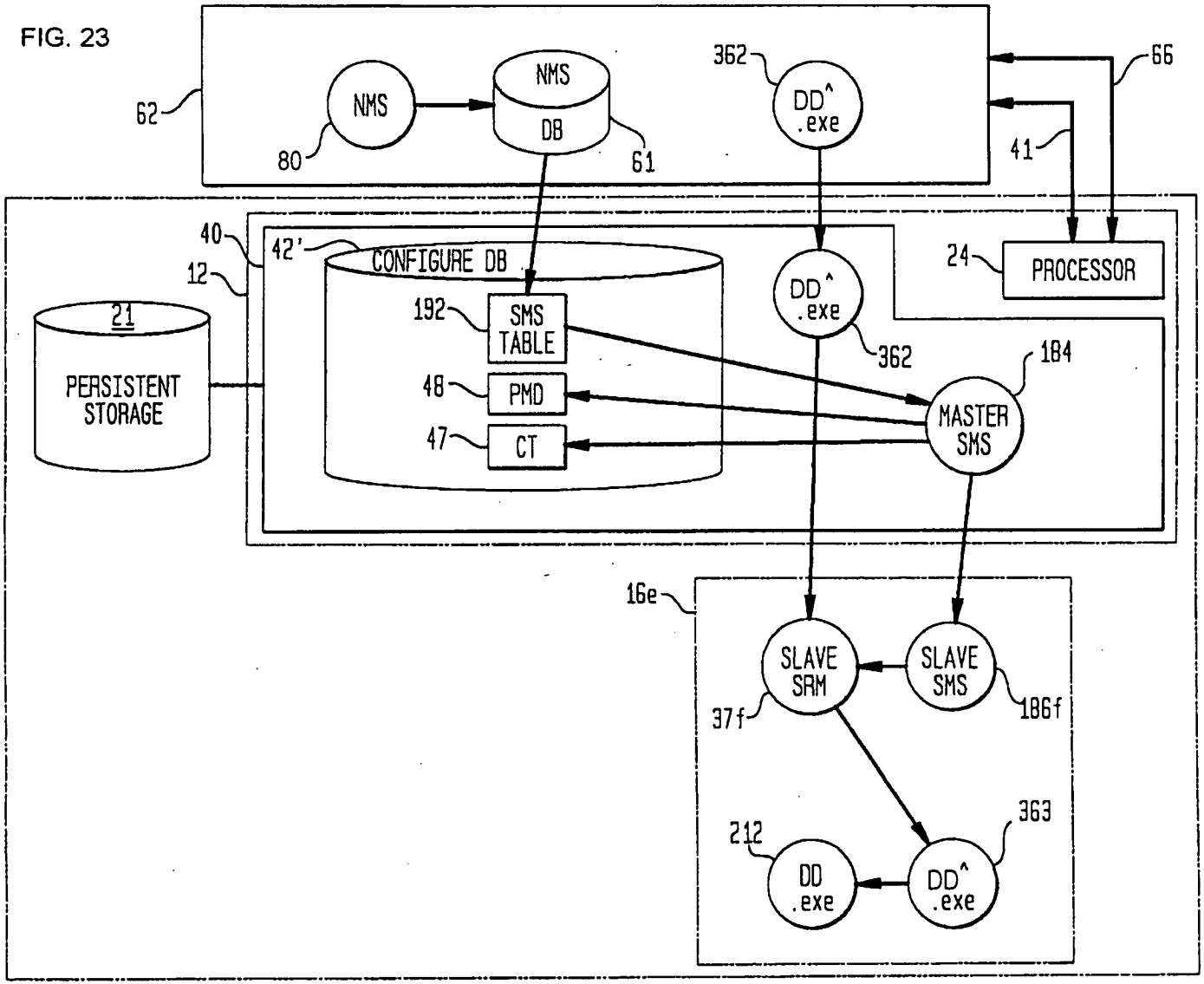

62
NMS
60
NMS
DB
61
66
32
10
12
PROCESSOR
24
40
42
CONFIGURE DB
220a
NS
PERSISTENT
STORAGE
21
16b
16n
224
ATM
NS
220b
16a
SEM
DD
222
96a
44a
NS
220c
NS
220n
ATM
224b
ATM
224n

FIG. 16C

FIG. 23


62
NMS
80
NMS
DB
61
362
DD^
.exe
66
41
40
42'
CONFIGURE DB
12
21
PERSISTENT
STORAGE
192
SMS
TABLE
48
PMD
47
CT
DD^
.exe
362
24
PROCESSOR
184
MASTER
SMS
16e
SLAVE
SRM
37f
SLAVE
SMS
186f
212
DD
.exe
363
DD^
.exe

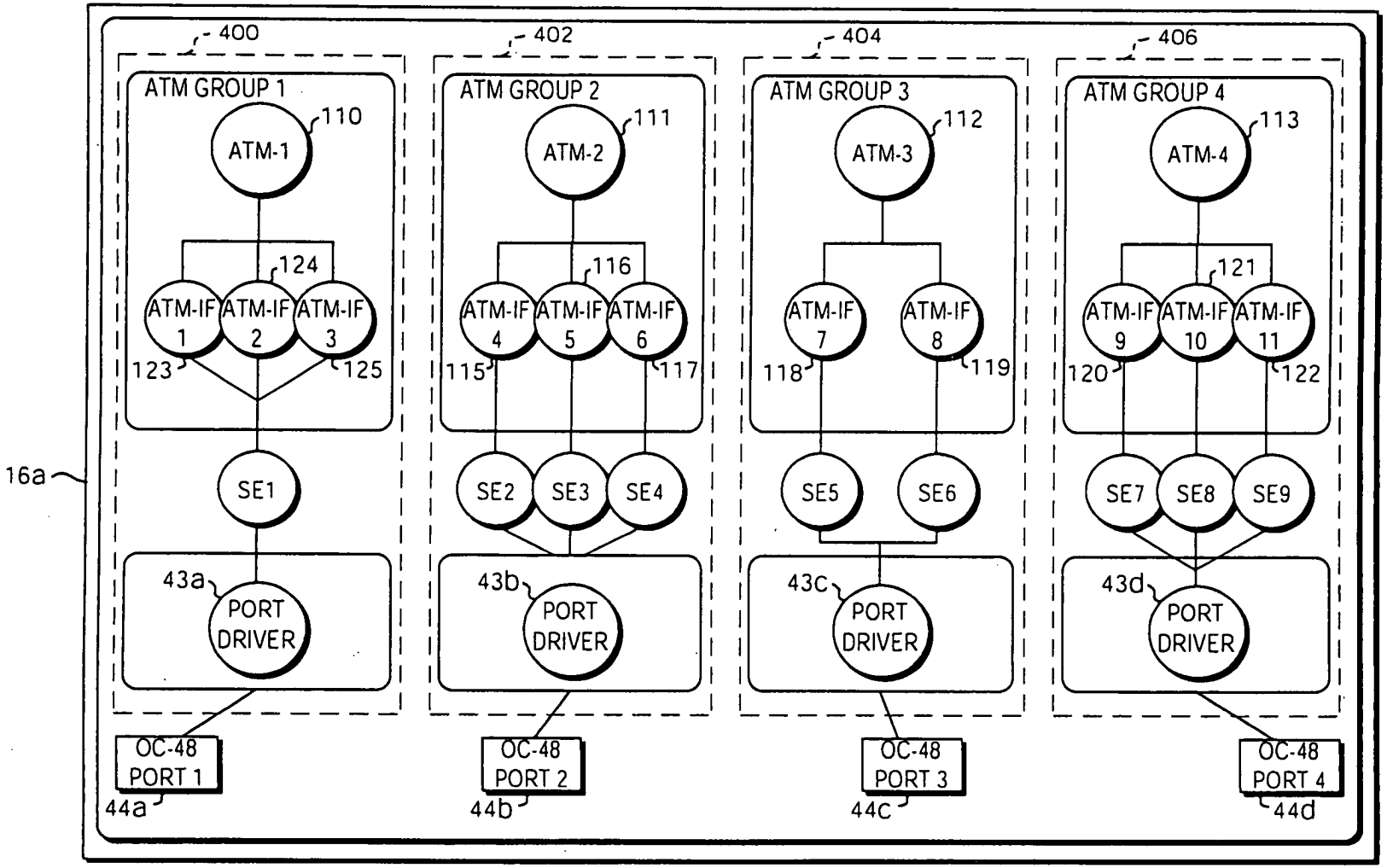

16a
400
402
404
406
ATM GROUP 1
ATM GROUP 2
ATM GROUP 3
ATM GROUP 4
ATM-1
110
ATM-2
111
ATM-3
112
ATM-4
113
124
116
121
ATM-IF 1
ATM-IF 2
ATM-IF 3
ATM-IF 4
ATM-IF 5
ATM-IF 6
ATM-IF 7
ATM-IF 8
ATM-IF 9
ATM-IF 10
ATM-IF 11
123
125
115
117
118
119
120
122
SE1
SE2
SE3
SE4
SE5
SE6
SE7
SE8
SE9
43a
43b
43c
43d
PORT DRIVER
OC-48 PORT 1
OC-48 PORT 2
OC-48 PORT 3
OC-48 PORT 4
44a
44b
44c
44d

FIG. 25

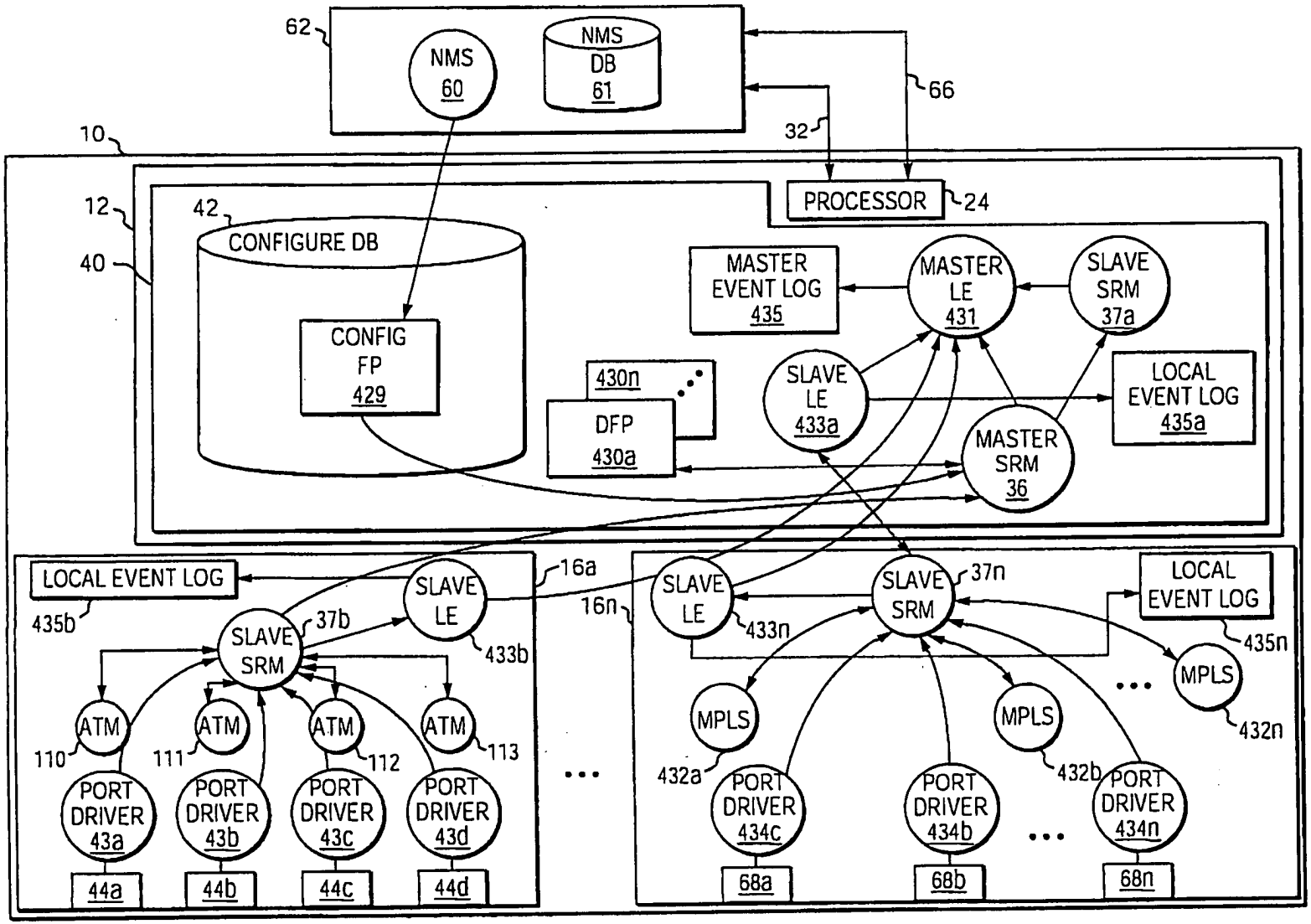

62
NMS
60
NMS
DB
61
66
32
10
12
42
CONFIGURE DB
40
PROCESSOR
24
CONFIG
FP
429
MASTER
EVENT LOG
435
MASTER
LE
431
SLAVE
SRM
37a
430n
DFP
430a
SLAVE
LE
433a
LOCAL
EVENT LOG
435a
MASTER
SRM
36
LOCAL EVENT LOG
435b
SLAVE
LE
16a
SLAVE
SRM
37b
433b
ATM
110
ATM
111
ATM
112
ATM
113
PORT
DRIVER
43a
PORT
DRIVER
43b
PORT
DRIVER
43c
PORT
DRIVER
43d
44a
44b
44c
44d
16n
SLAVE
LE
433n
SLAVE
SRM
37n
LOCAL
EVENT LOG
435n
MPLS
432n
MPLS
432a
MPLS
432b
PORT
DRIVER
434c
PORT
DRIVER
434b
PORT
DRIVER
434n
68a
68b
68n

FIG. 26

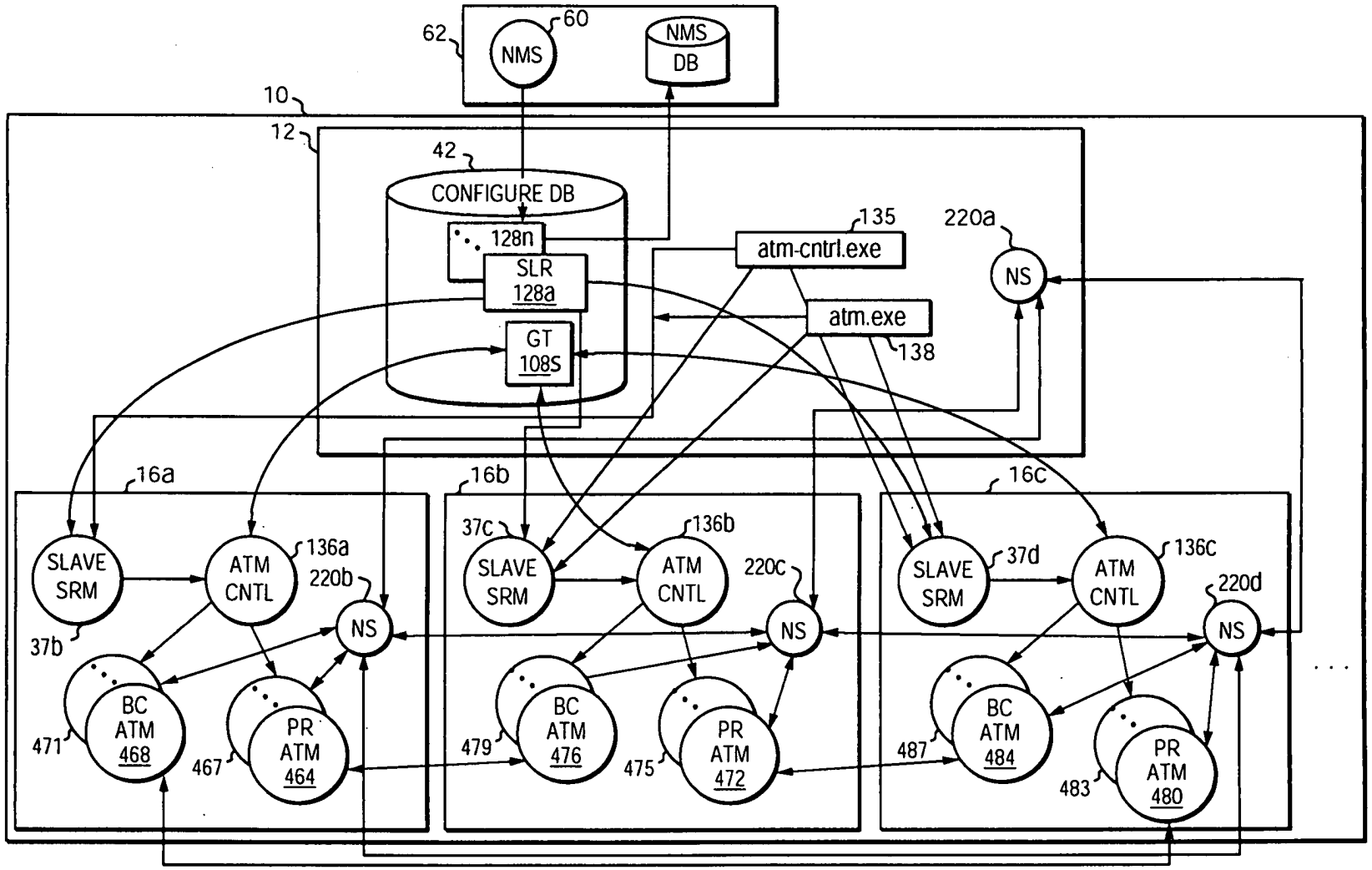

62
60
NMS
NMS DB
10
12
42
CONFIGURE DB
128n
SLR 128a
GT 108S
135
atm-cntrl.exe
atm.exe
138
220a
NS
16a
16b
16c
SLAVE SRM
ATM CNTL
136a
220b
37b
BC ATM 468
PR ATM 464
471
467
37c
136b
220c
BC ATM 476
PR ATM 472
479
475
37d
136c
220d
BC ATM 484
PR ATM 480
487
483

FIG. 29

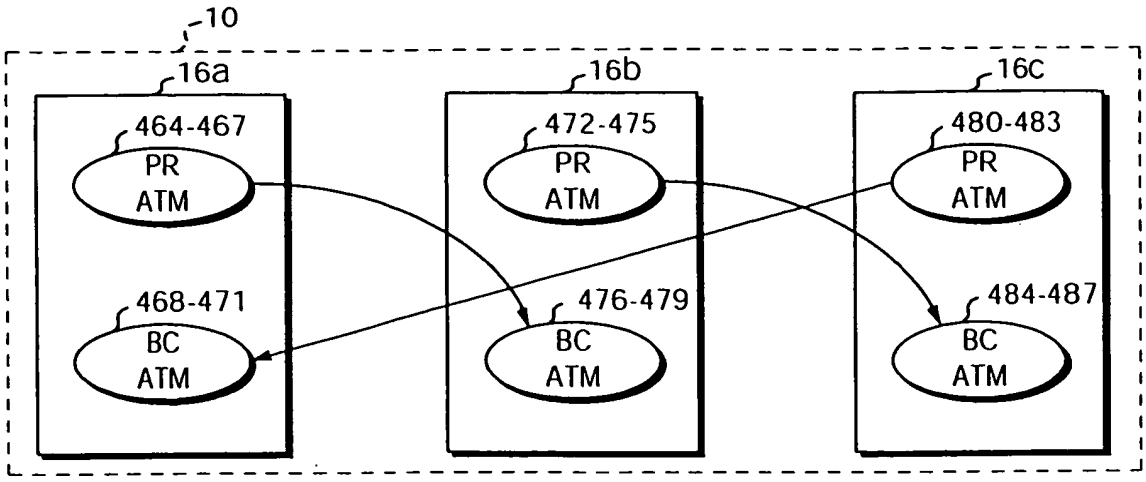


FIG. 31A

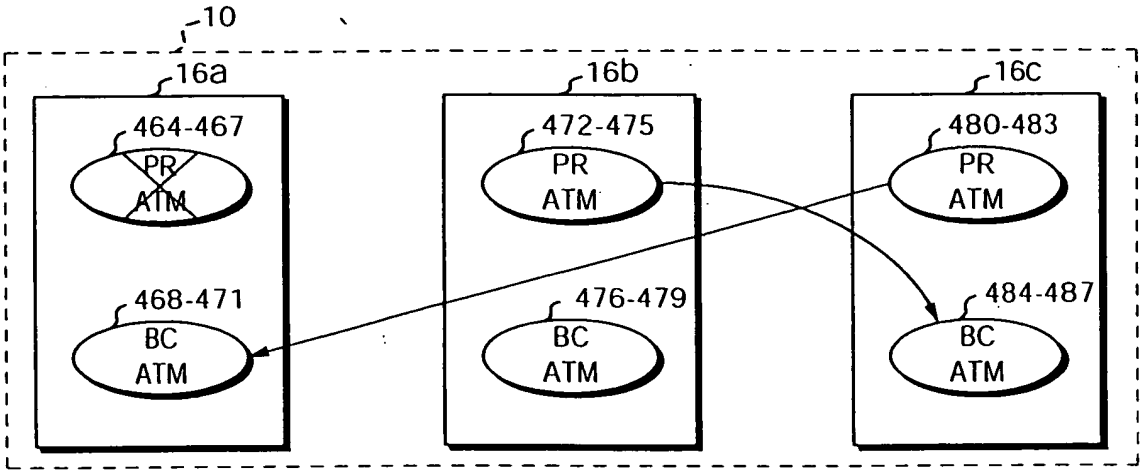


FIG. 31B

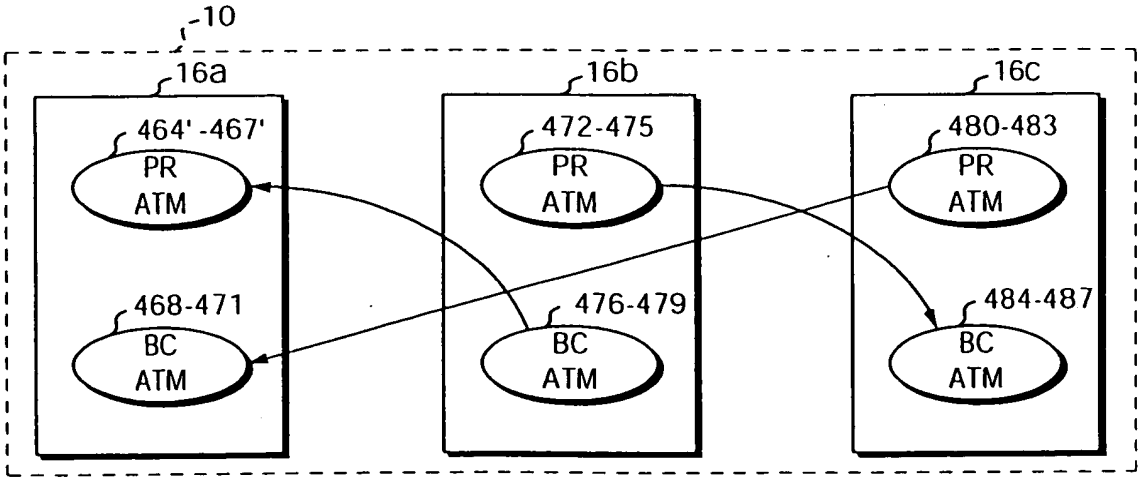


FIG. 31C

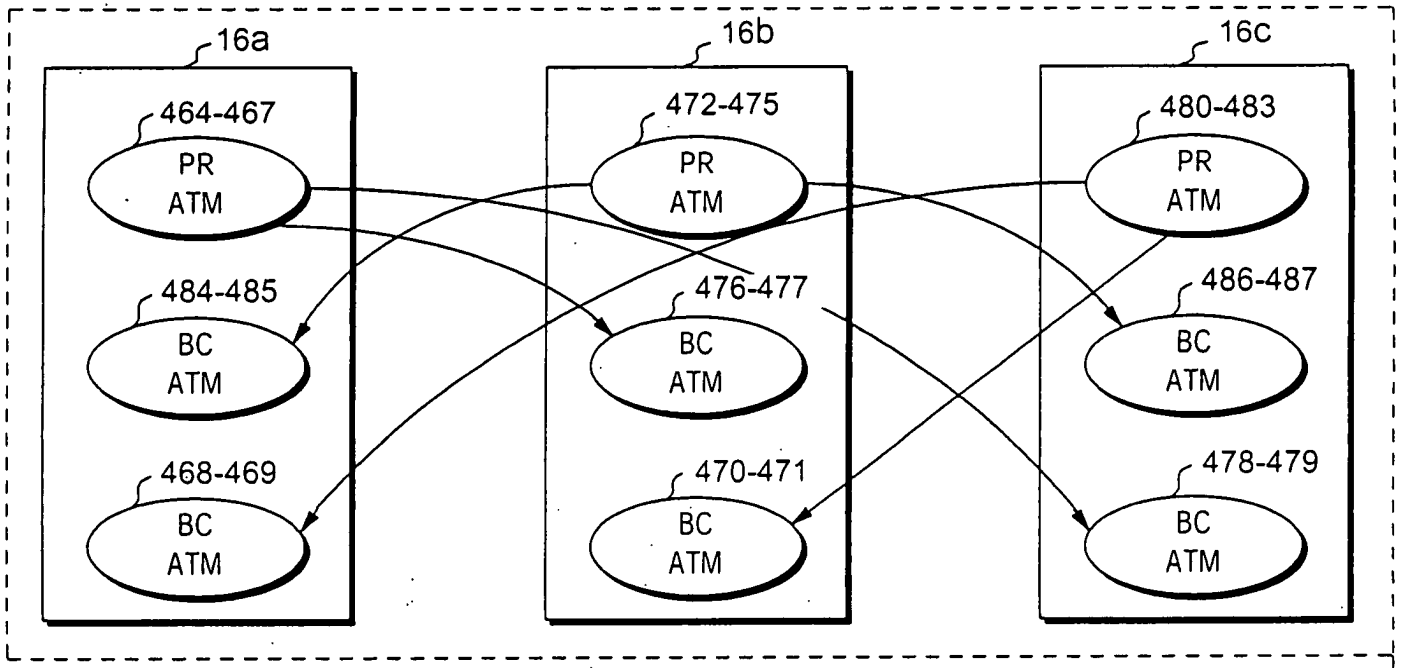

16a
16b
16c
464-467
PR
ATM
484-485
BC
ATM
468-469
BC
ATM
472-475
PR
ATM
476-477
BC
ATM
470-471
BC
ATM
480-483
PR
ATM
486-487
BC
ATM
478-479
BC
ATM

FIG. 32A

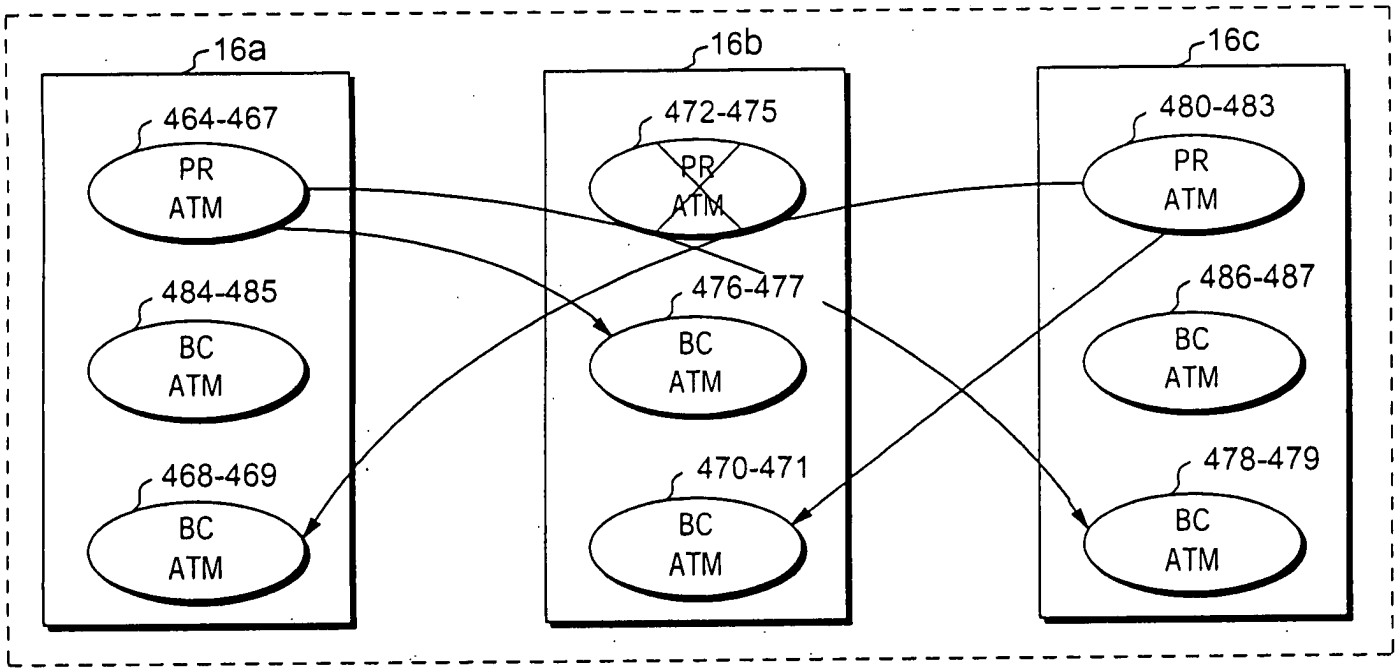

16a
464-467
PR
ATM
484-485
BC
ATM
468-469
BC
ATM
16b
472-475
PR
ATM
476-477
BC
ATM
470-471
BC
ATM
16c
480-483
PR
ATM
486-487
BC
ATM
478-479
BC
ATM

FIG. 32B

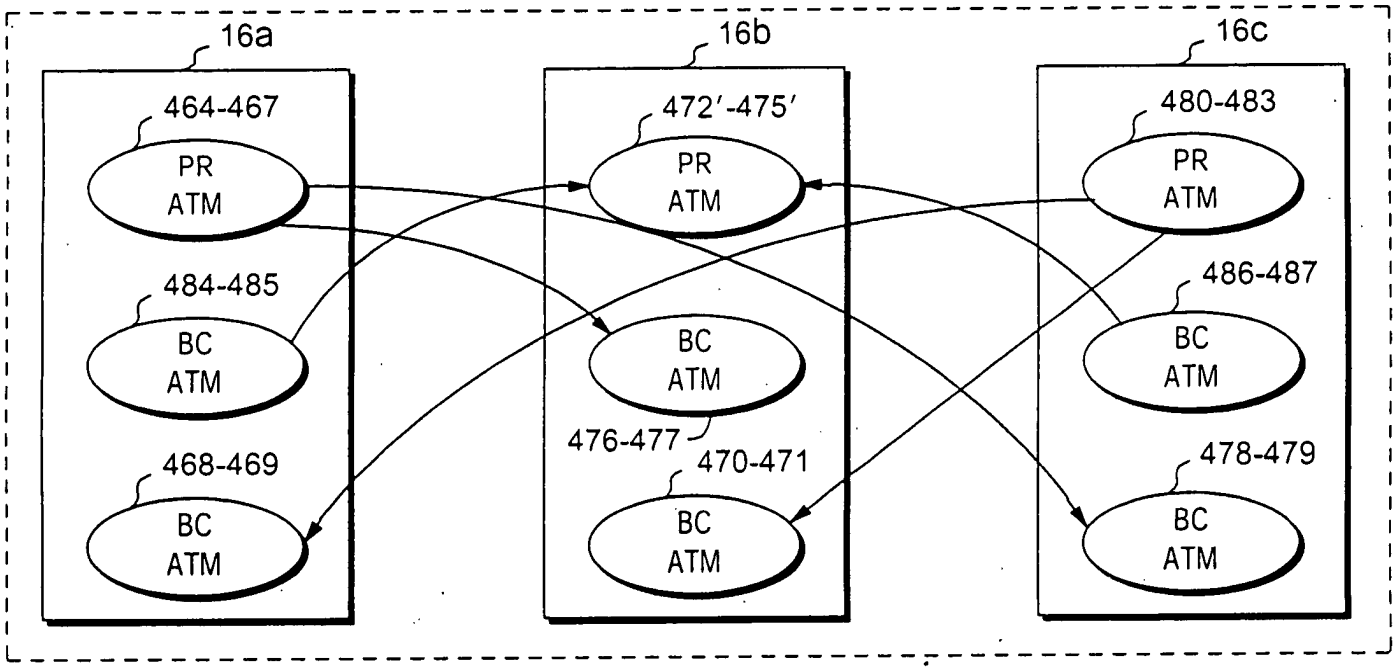

16a
16b
16c
464-467
PR
ATM
484-485
BC
ATM
468-469
BC
ATM
472'-475'
PR
ATM
BC
ATM
476-477
470-471
BC
ATM
480-483
PR
ATM
486-487
BC
ATM
478-479
BC
ATM

FIG. 32C

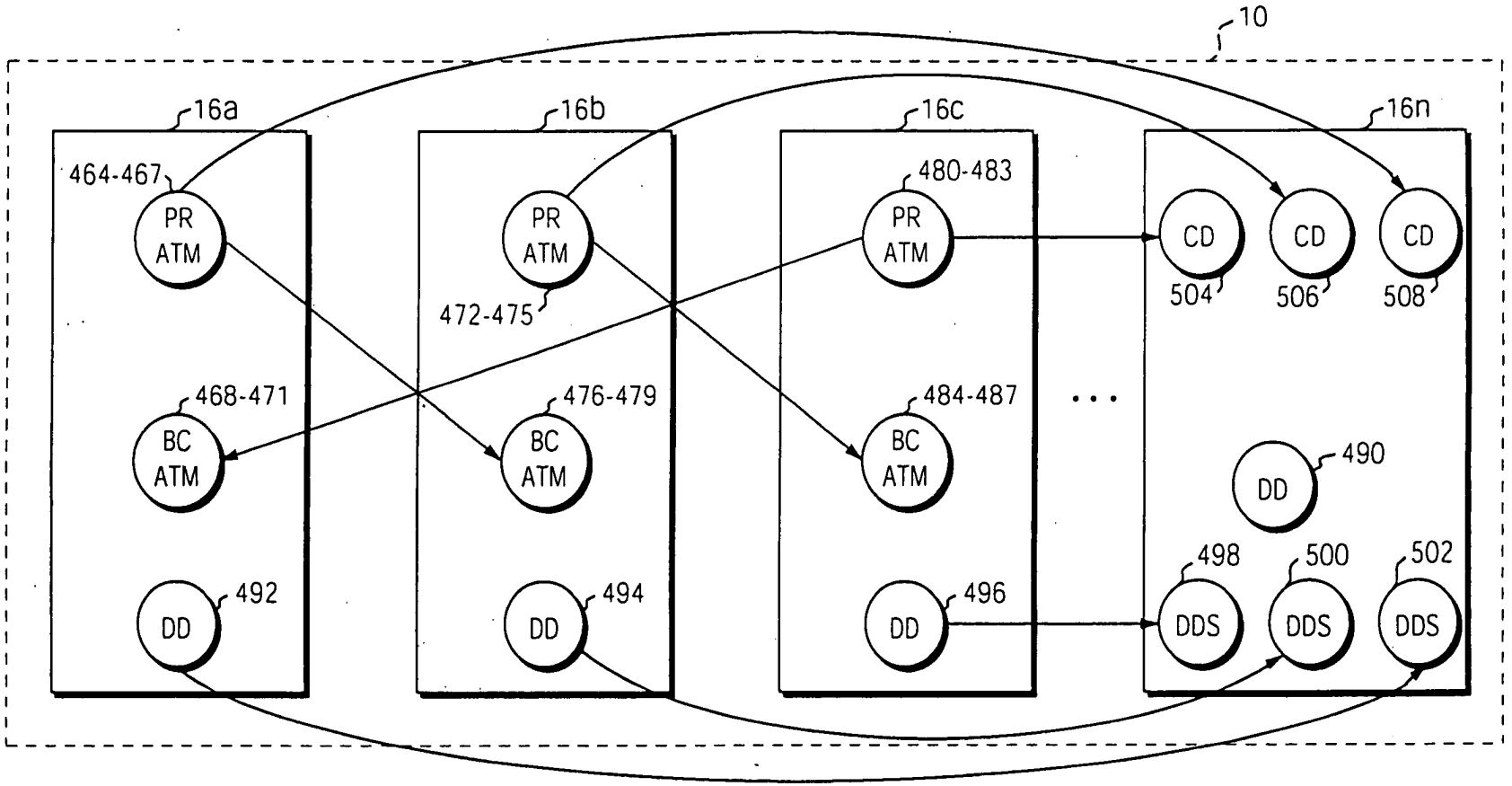

10
16a
16b
16c
16n
464-467
PR ATM
472-475
PR ATM
480-483
PR ATM
CD
CD
CD
504
506
508
468-471
BC ATM
476-479
BC ATM
484-487
BC ATM
DD
490
498
500
502
492
DD
494
DD
496
DD
DDS
DDS
DDS

FIG. 33A

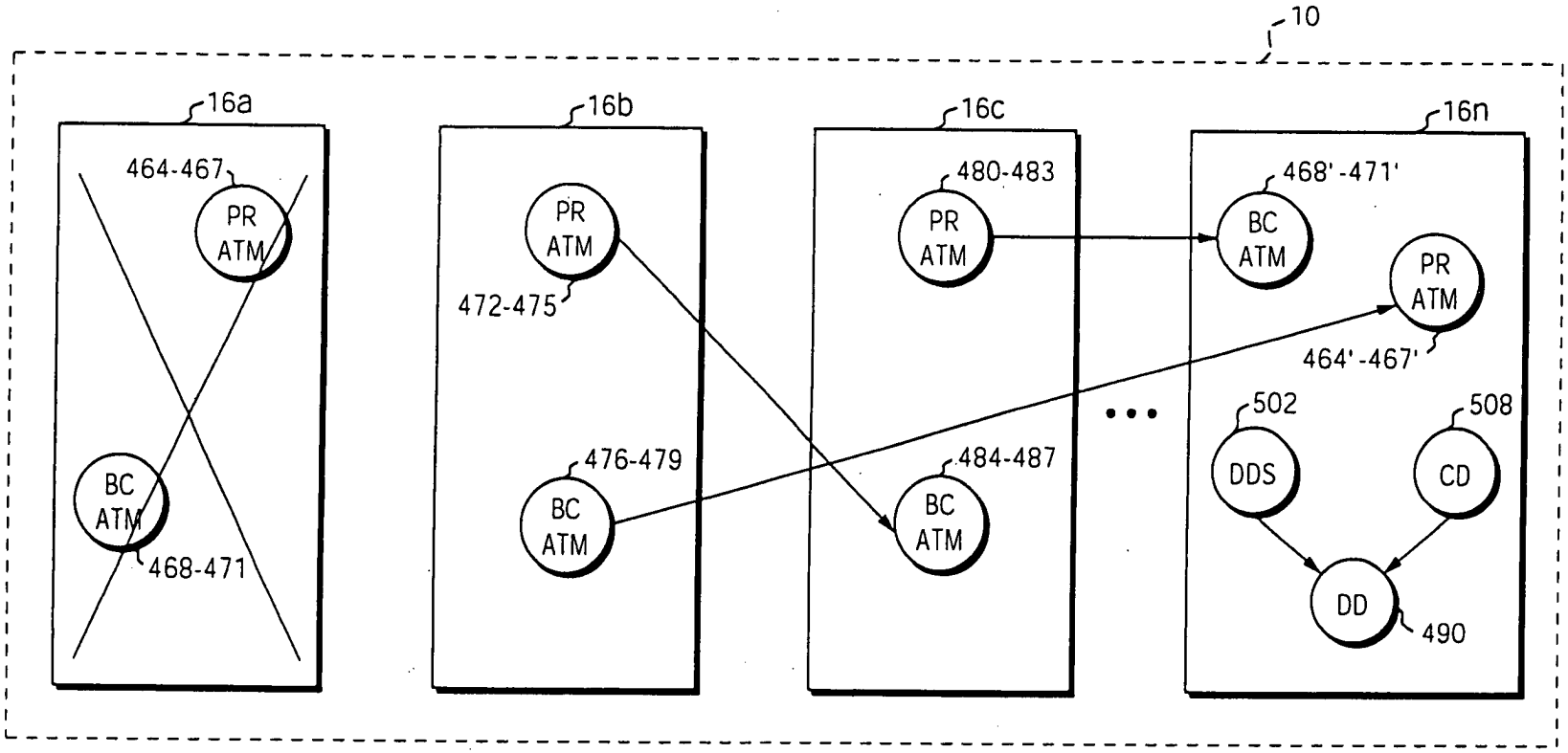

10
16a
16b
16c
16n
464-467
PR ATM
BC ATM
468-471
PR ATM
472-475
476-479
BC ATM
480-483
PR ATM
BC ATM
484-487
468'-471'
BC ATM
PR ATM
464'-467'
502
DDS
508
CD
DD
490

FIG. 33B

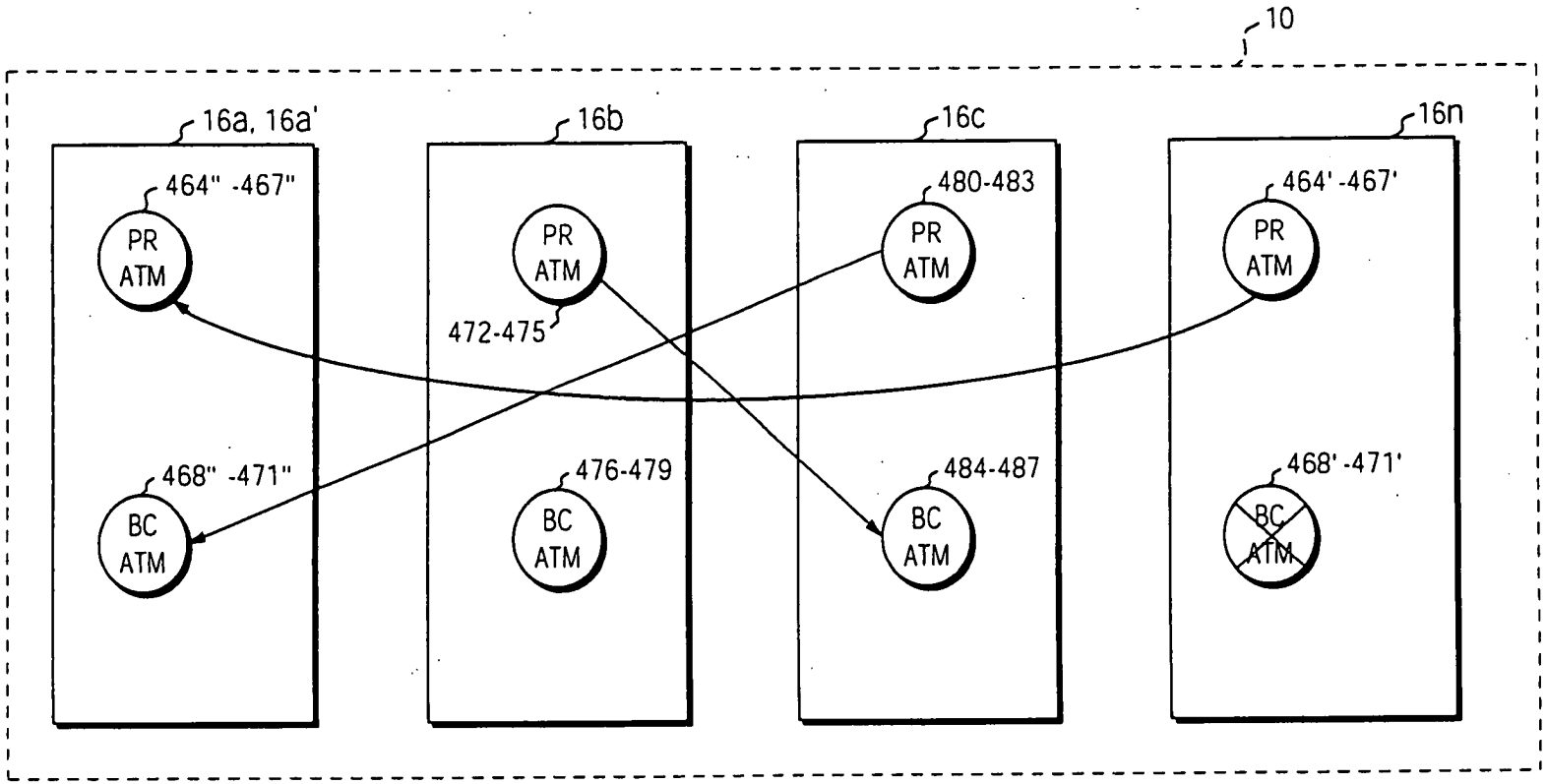

10
16a, 16a'
16b
16c
16n
464" -467"
PR ATM
472-475
480-483
464' -467'
468" -471"
BC ATM
476-479
484-487
468' -471'

FIG. 33C

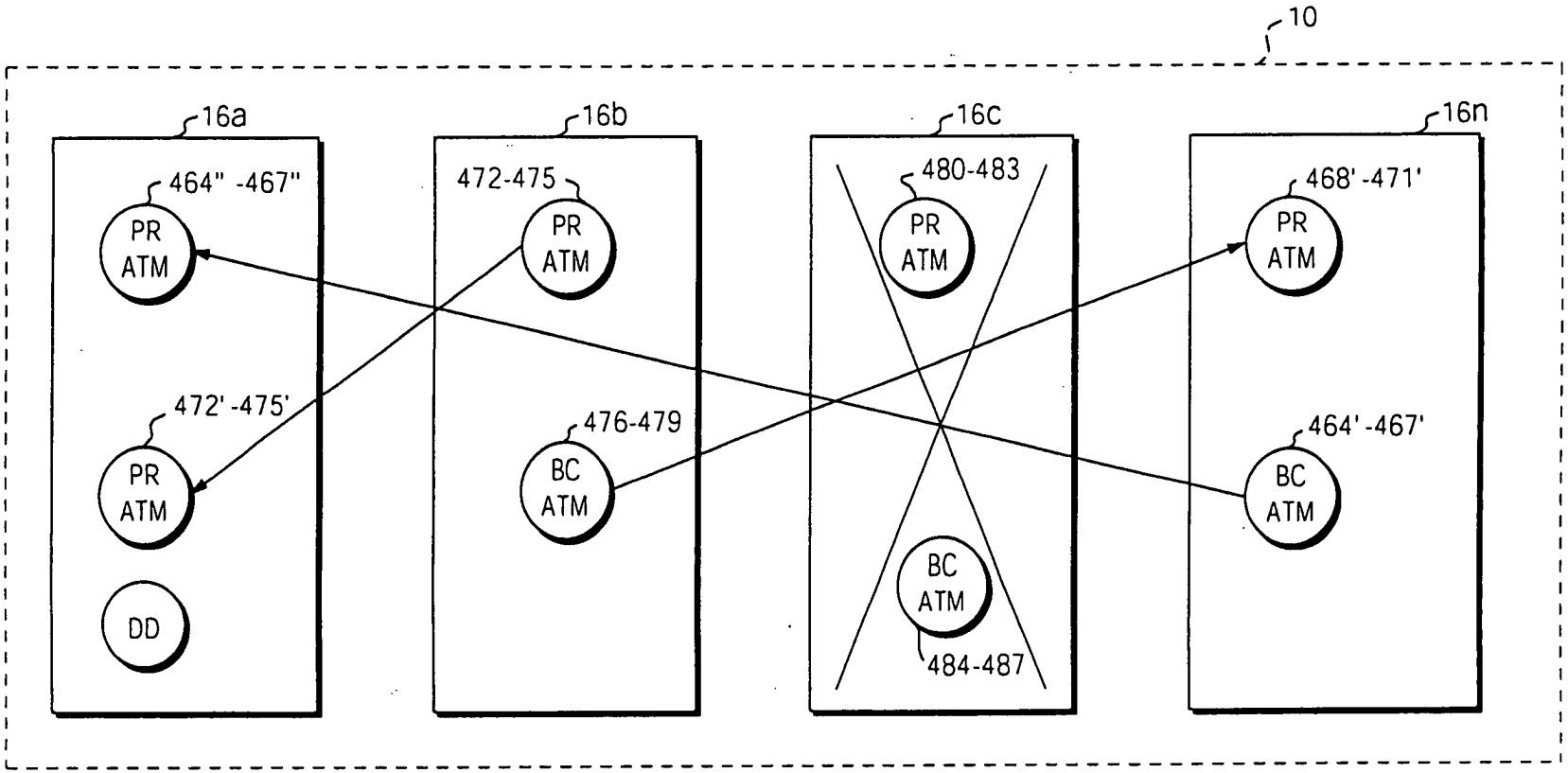

10
16a
16b
16c
16n
464" -467"
PR ATM
472-475
PR ATM
480-483
PR ATM
468' -471'
PR ATM
472' -475'
PR ATM
476-479
BC ATM
464' -467'
BC ATM
DD
BC ATM
484-487

FIG. 33D

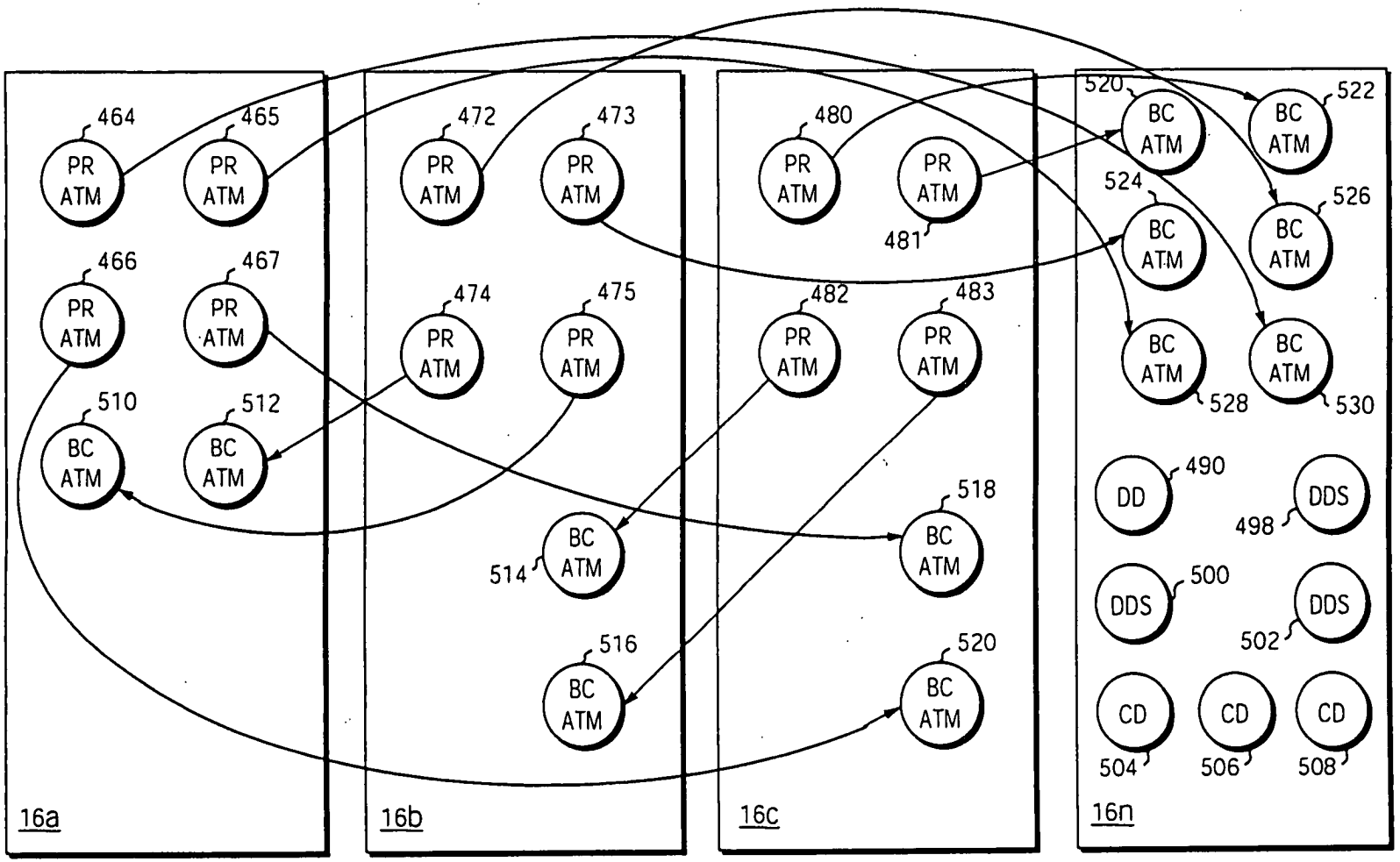

464
PR ATM
465
PR ATM
466
PR ATM
467
PR ATM
510
BC ATM
512
BC ATM
16a
472
PR ATM
473
PR ATM
474
PR ATM
475
PR ATM
514
BC ATM
516
BC ATM
16b
480
PR ATM
PR ATM
481
482
PR ATM
483
PR ATM
518
BC ATM
520
BC ATM
16c
520
BC ATM
522
BC ATM
524
BC ATM
526
BC ATM
BC ATM
528
BC ATM
530
DD
490
DDS
498
DDS
500
DDS
502
CD
504
CD
506
CD
508
16n

FIG. 34A

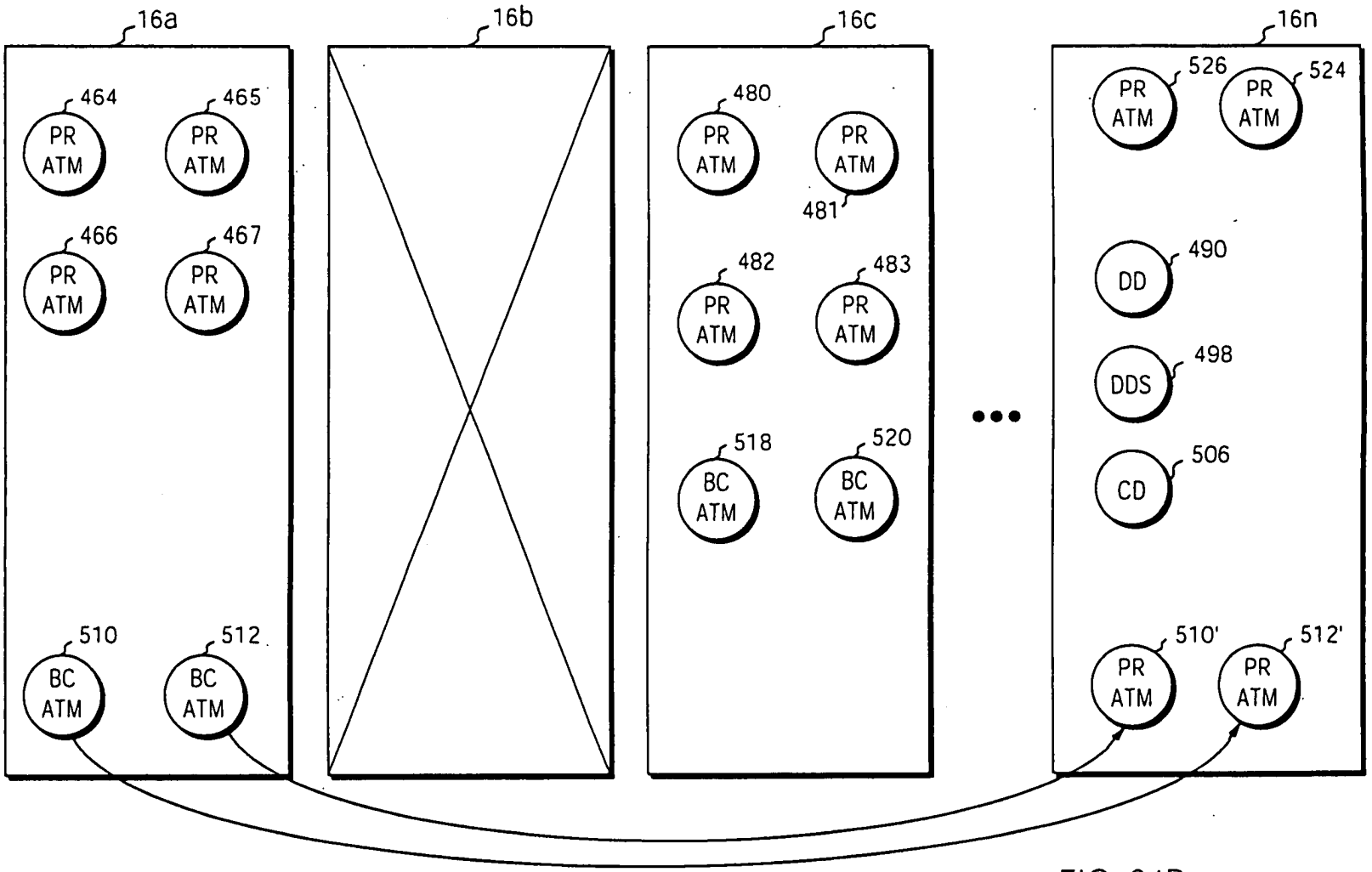

16a
16b
16c
16n
464
PR ATM
465
PR ATM
466
PR ATM
467
PR ATM
510
BC ATM
512
BC ATM
480
PR ATM
481
PR ATM
482
PR ATM
483
PR ATM
518
BC ATM
520
BC ATM
526
PR ATM
524
PR ATM
490
DD
498
DDS
506
CD
510'
PR ATM
512'
PR ATM

FIG. 34B

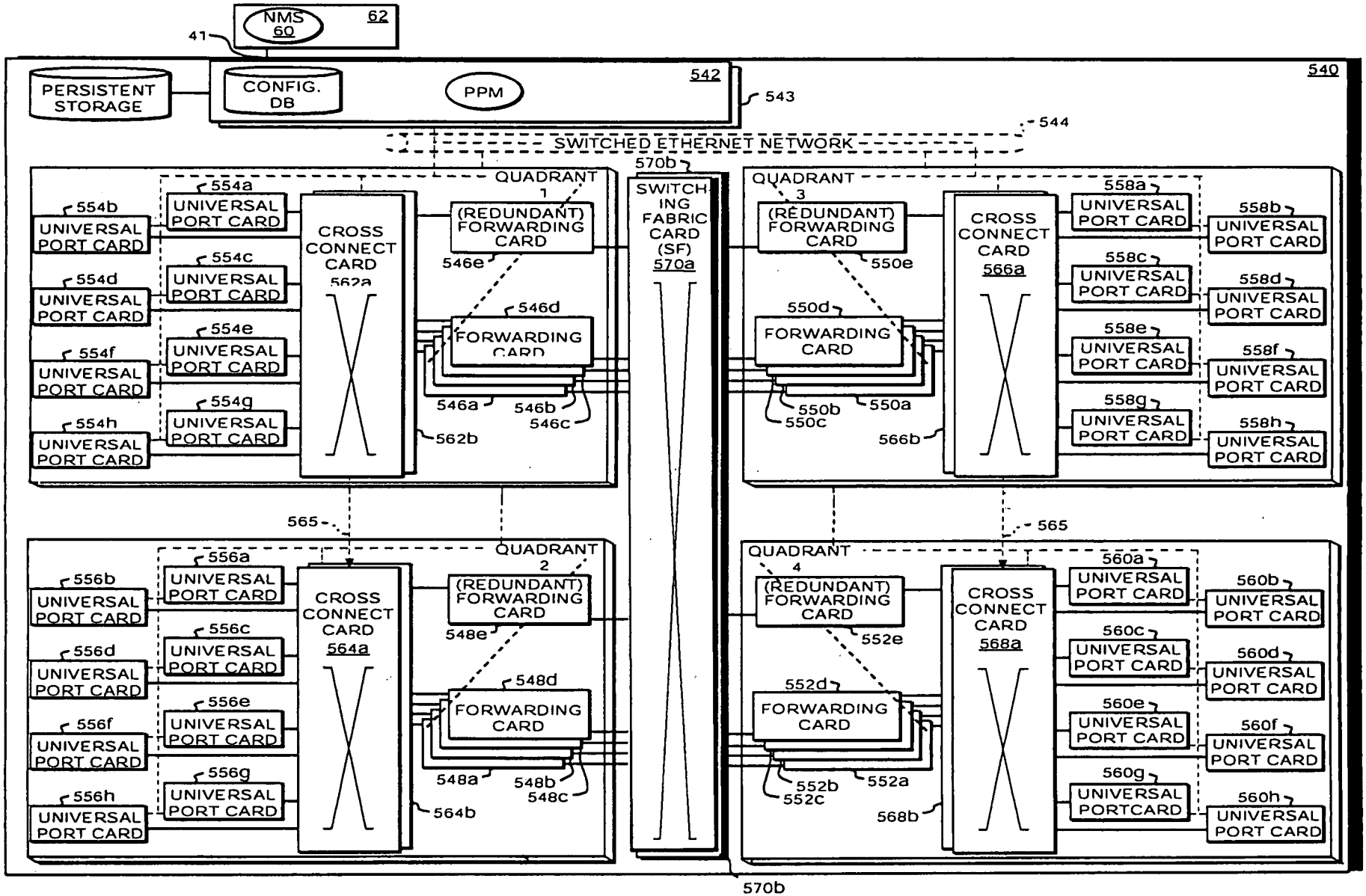

NMS 60
62
41
PERSISTENT STORAGE
CONFIG. DB
PPM
542
543
540
544
SWITCHED ETHERNET NETWORK
570b
SWITCHING FABRIC CARD (SF) 570a
QUADRANT 1
QUADRANT 3
QUADRANT 2
QUADRANT 4
554a
554b
554c
554d
554e
554f
554g
554h
UNIVERSAL PORT CARD
CROSS CONNECT CARD 562a
(REDUNDANT) FORWARDING CARD
546e
FORWARDING CARD
546d
546a
546b
546c
562b
565
556a
556b
556c
556d
556e
556f
556g
556h
CROSS CONNECT CARD 564a
548e
548d
548a
548b
548c
564b
(REDUNDANT) FORWARDING CARD 550e
FORWARDING CARD 550d
550b
550c
550a
566b
CROSS CONNECT CARD 566a
558a
558b
558c
558d
558e
558f
558g
558h
(REDUNDANT) FORWARDING CARD 552e
FORWARDING CARD 552d
552b
552c
552a
568b
CROSS CONNECT CARD 568a
560a
560b
560c
560d
560e
560f
560g
560h
UNIVERSAL PORTCARD

FIG. 35

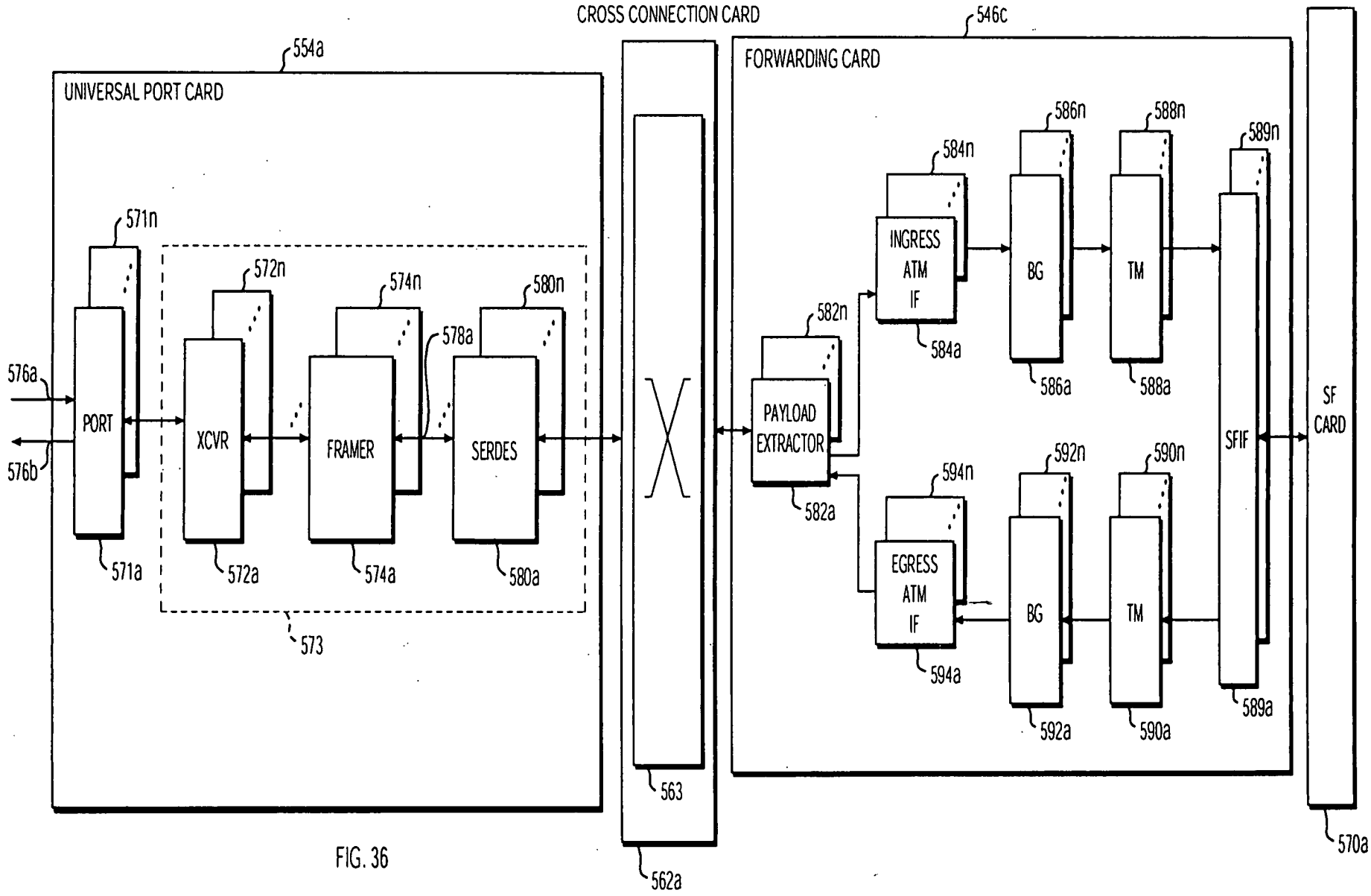

CROSS CONNECTION CARD
546c
554a
UNIVERSAL PORT CARD
FORWARDING CARD
571n
572n
574n
580n
578a
576a
576b
PORT
XCVR
FRAMER
SERDES
571a
572a
574a
580a
573
563
562a
582n
PAYLOAD EXTRACTOR
582a
584n
INGRESS ATM IF
584a
586n
BG
586a
588n
TM
588a
589n
SFIF
589a
SF CARD
570a
594n
EGRESS ATM IF
594a
592n
BG
592a
590n
TM
590a

FIG. 36

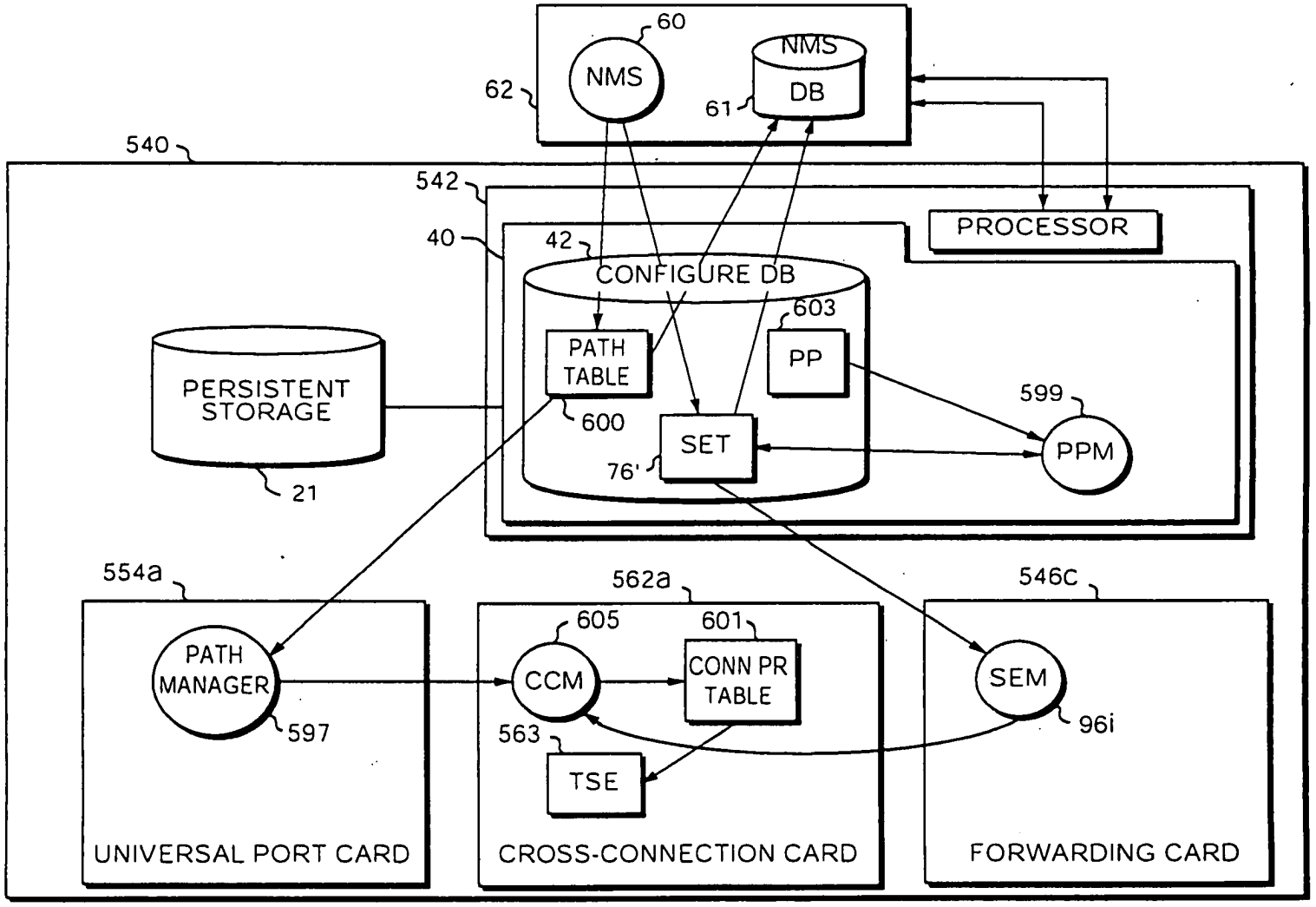

60
NMS
62
NMS
DB
61
540
542
PROCESSOR
40
42
CONFIGURE DB
603
PATH
TABLE
PP
PERSISTENT
STORAGE
599
600
SET
PPM
76'
21
554a
562a
546c
605
601
PATH
MANAGER
CCM
CONN PR
TABLE
SEM
597
96i
563
TSE
UNIVERSAL PORT CARD
CROSS-CONNECTION CARD
FORWARDING CARD

FIG. 37

PATH TABLE 600

602

PATH LID	UP PORT LID	TIME SLOT	# OF TIME SLOTS	...
1666	1231	4	3	
⋮	⋮	⋮	⋮	⋮

FIG. 38

SERVICE END POINT TABLE 76'

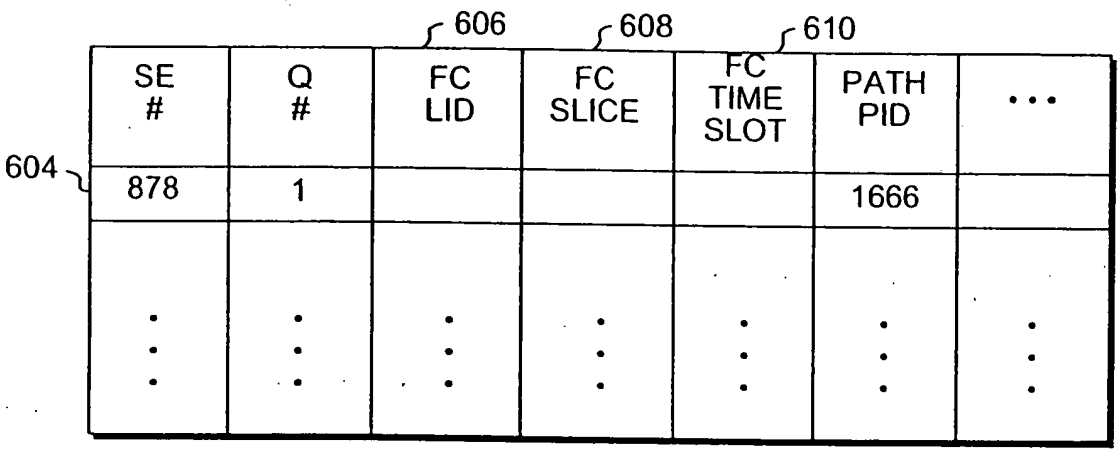


FIG. 39